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A mixed methods analysis of the relationship between attachment, post-traumatic stress, and post-traumatic growth among United States service members

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A Mixed Methods Analysis of the Relationship between Attachment, Post-Traumatic Stress, and
Post-Traumatic Growth among United States Service Members

Chauncy Brinton

A dissertation submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

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Abstract

The impact of secure military relationships on US service members' response to trauma during military service was examined in this mixed methods study. Veterans with and without combat exposure evidence a high rate of post-traumatic stress disorder (PTSD) and the military has tried to institute resilience-based programs in anticipation of the psychological challenges experienced by soldiers. At the same time, research has shown that some service members report positive outcomes associated with military service including the phenomena of post-traumatic growth (PTG). The constructs from attachment theory (safe haven and exploration) have begun to be the focus of research with service members and have been linked to PTG. In the current study, the statistical relationships and qualitative dimensions among attachment, PTSD, and PTG were examined. The quantitative portion of this study found that the safer and secure service members rated their relationships with fellow service members, their unit, and their leaders, the fewer PTSD symptoms they reported and the more likely they were to experience posttraumatic growth, independent of demographics (age, education level, rank), and combat exposure. The qualitative portion of this study reported the broad and varied lived experiences of service member's relationships – providing many answers to the question of how relationships matter. Implications of these findings for military programs and policies and future research directions are discussed.

Chapter I

Introduction

The international military campaign initiated after the September 11, 2001 attack, often referred to as the Global War on Terror, resulted in the deployment of approximately 2.2 million men and women (Institute of Medicine, 2010). The wars in Iraq and Afghanistan now represent the longest period of combat operations since the Vietnam War, yet the number of active military members is the smallest in US history. This has led to longer and more frequent deployments, with approximately 40 percent of service members experiencing more than one deployment (Institute of Medicine, 2010; Tanielian & Jaycox, 2008) with shorter intervals at home between deployments (Institute of Medicine, 2013). While combat exposure and living in austere environments can have a negative effect on psychological functioning, this study seeks to highlight the impact frequent deployments and disruptions have on the intimate social bonds of the individual service member. Attachment theory provides a framework to understand adaptive interactions between humans and key factors that lead to the development of deep and abiding interpersonal relationships.

Post-Traumatic Stress Disorder

In conjunction with the increased operations tempo, research has shown an increase in diagnosis of post-traumatic stress disorder (PTSD) amongst returning veterans. The current US military now has the highest rate of PTSD in its history (Junger, 2016). Rates of PTSD in service members returning from Operations Iraqi Freedom and Enduring Freedom (OIF/OEF) range from 1.4% to 31% across studies (Sundin, Fear, Iversen, Rona & Wessely, 2010). On September 1, 2010, Operation Iraqi

Freedom name was changed to Operation New Dawn (OND) to reflect that it was no longer a combat mission.

Research conducted in the Veterans Affairs (VA) health system suggests that 37 percent of OEF/OIF/OND veterans receive a mental health diagnosis and 22 percent receive a diagnosis of PTSD (Seal et al., 2009). Kline et al., found that service members have an increased risk of PTSD with multiple deployments (2010). However, PTSD is not just a problem for veterans who have seen combat or deployed. Studies indicate only 10 percent of service members are exposed to combat (Junger, 2016). According to the Army Surgeon General's Mental Health Advisory Team, up to twenty percent of enlisted personnel (both deployed and non-deployed) met criteria for PTSD (Walker, 2009; Junger 2016). In fact, an analysis by the Institute of Medicine and the National Research Council (2007) found that people who struggle to overcome trauma are more likely to have a history of psychological issues, either due to genetics or due to suffering trauma and abuse as a child. Another study found that if a child experiences the death of a loved one or does not receive sufficient physical contact, he is seven times more likely to develop an anxiety disorder that can contribute to PTSD (McFarlane, 1989). These findings suggest that disruptions in one's intimate relationships may impact PTSD. When service members return to modern society after deployment or separation from the military, they can experience a disruption or loss of strong bonds they developed with fellow service members. This is especially true if service members do not have a healthy relationship with family and friends outside of the military. This loss of community has been shown to have as much impact on how individuals respond to military trauma as the nature and severity of the trauma itself (Junger, 2016).

Resilience and Post-Traumatic Growth

Given the unique stressors experienced by service members related to separation and loss, it is not surprising there has been an increase in PTSD and in the amount of research focused on negative consequences of military related trauma (Larner & Blow, 2011; Hoge, Terhakopian, Castro, Messer, & Engel, 2007; Tanielian & Jaycox, 2008). While it is important to recognize and address the negative consequence associated with military service, an exclusive and narrow focus on problems would limit learning about possible positive aspects of military experiences. Indeed, some research results indicated that most veterans reported more positive than negative consequences as a result of their military and wartime service and many veterans reported having better lives than they did prior to military trauma (Schok, Kleber, Elands, & Weerts, 2008; Larner & Blow, 2011). Bonanno, et al. (2012) examined self-reported post-traumatic stress of US military service members prior to deployment and at two follow-ups, conducted 3 years apart. Of the almost 8,000 respondents, 3,393 of them had deployed once and 4,394 deployed multiple times. The authors found that most soldiers were quite resilient, with 85 percent reporting no lasting negative consequences as a result of combat. This same study found that soldiers demonstrated more resilience, as measured by self-reported symptoms of post-traumatic stress, when compared to other similar studies done with the general population.

Over the past 20 years, there has been an increasing theoretical and research focus on a phenomenon that suffering and trauma can sometimes lead to psychological growth (Tedeschi, & Calhoun, 1995; Larner & Blow, 2011). Early behavioral and social scientists Caplan (1964) and Frankl (1963) wrote about how highly stressful experiences

could lead to positive change. This phenomenon, termed post-traumatic growth (PTG) in the psychological literature, has been defined as “the experience of positive change resulting from the struggle with highly challenging life circumstances” (Calhoun & Tedeschi, 2004). The authors define challenging circumstances as those “that represent significant challenges to the individual’s way of understanding the world and their place in it” (2004, p. 1.). The challenge itself doesn’t lead to PTG, rather it is through the process of struggling to rebuild and integrate one’s new reality into an adaptive schema that PTG occurs. In other words, PTG is a transformation of one’s previous beliefs and assumptions about oneself, one’s relationship with others, and one’s place in the world as a result of highly challenging circumstances that is more adaptive and congruent with the new reality (Calhoun & Tedeschi, 1999). The highly challenging demands of military service, such as deployment, combat exposure, and reintegration back into civilian society post-service, seem to be circumstances where service members may examine and re-examine the ways they view themselves and the world around them (Tedeschi & McNally, 2011).

As noted above one factor that appears to have a major influence on resilience is the quality of one’s relationships with others. One reason for this is reworking one’s beliefs and worldview is often a relational process that requires trusting the other in order to disclose fears and doubts. When our safety and security is threatened we are neurologically wired to reach out to others to receive and provide protection and support (Siegel, 2015). This can result in the development of deep and intimate relationships where people emerge transformed. For instance, after Hurricane Katrina New Orleans experienced a drop in crime rates and more cooperation across racial and socioeconomic

lines (Junger, 2016). Indeed, research suggests that a primary reason service members are resilient is due to the powerful bonds and trust they develop with fellow service members, leaders, and their unit when in the face of threat and danger (Brewin, Andrews, & Valentine, 2000; Carlier, Lamberts, & Gersons, 1997; Green, Grace, Lindy, Gleser, & Leonard, 1990; King, Leskin, King, & Weathers, 1998; Neria, Solomon, Dekel, 1998; Ozer, Best, Lipsey, & Weiss, 2003; Solomon, Mikulincer, & Avitzur, 1988; Solomon, Mikulincer, & Waysman, 1991; Solomon, Oppenheimer, Elizur, & Waysman, 1990; Sutker, Davis, Uddo, & Ditta, 1995).

Attachment and Response to Trauma

Given the centrality of relationships in response to trauma, it is surprising there is not more research applying attachment theory to service member's unique experience of trauma. Bowlby (1988) described attachment behavior as "any form of behavior that results in a person attaining or maintaining proximity to some other clearly identified individual who is conceived as better able to cope with the world" (pp. 26-27). When children are able to consistently maintain such proximity to a trusting caregiver they are able to trust their needs will be met and have increasingly satisfying relational interactions. This in turn leads to children feeling they can more actively explore their environment and better regulate their behavior and emotions. As children grow older and advance into adolescence and adulthood, attachment bonds form with close friends, romantic partners, etc. (Trinke & Bartholomew, 1997). As attachment theory highlights adaptive interaction and the bonds between intimate partners, it provides a model for how to repair a relationship when ruptures occur. Given the frequent deployments, moves, and losses that OEF/OIF/OND service members experience, attachment theory can

provide a powerful framework for navigating the separation and loss inherent in military service.

Research suggests that attachment style can play a major role in how individuals respond to military attacks. Mikulincer, Florian, and Weller (1993) examined the association between adult attachment style and reactions to the Iraqi missile attack on Israel during the Gulf War. Following the attack, persons with secure attachment styles had less distress, were more adaptive, and exhibited more support-seeking coping styles than persons with insecure attachment styles. Those with insecure attachment styles reacted with a range of emotion-focused or distancing strategies.

Research has indicated that “symptoms of combat-related trauma and posttraumatic stress are inversely associated with service members’ relationship quality and stability (Institute of Medicine, 2010, p. 68)”. Insecure attachment style appears to be associated with more PTSD symptoms whereas secure attachment style appears to be associated with less PTSD symptoms across various types of attachment measurements and methods (Currier, Holland, & Allen, 2012; Escolas, Arata-Maiers, Hildebrandt, Maiers, Mason, & Baker, 2012). Furthermore, research shows that secure adult attachment contributes to PTG (Kanninen, Punamäki, & Qouta, 2003; Salo, Qouta, & Punamäki, 2005).

The existing research has demonstrated the impact of PTSD, PTG, and attachment quality in the lives of service members. The current study used an innovative mixed method design to investigate the complex and meaningful ways these psychological dimensions interact and influence each other.

Chapter II

Review of the Literature

This chapter provides a review of the relevant literature regarding OIF/OEF/OND service members and PTSD, PTG and attachment style to further explain the theoretical and empirical support for the study.

PTSD and Factors Influencing Response to Trauma

Over 1,285,631 OEF, OIF and OND veterans have left active duty and become eligible for VA health care since 2002 including 691,031 (54%) former Active Duty troops and 594,600 (46%) Reserve and National Guard service members. The incidence of PTSD in Iraq and Afghanistan War veterans is estimated at 15% (Tanielian & Jaycox, 2008). This is nearly twice the estimated lifetime prevalence rate for civilians (5-10%) (Wittchen & Jacobi, 2005), and comparable with longitudinal data for the incidence of PTSD in Vietnam veterans (Kulka et al., 1990).

Several reasons can be postulated for this phenomenon. A significantly higher percentage of military personnel survive following an injury than in previous wars. Due to improvements in medical care and war zone evacuation, 10% of military personnel serving in Afghanistan and Iraq died as a result of their injuries, compared to 25% in prior wars (Gawande, 2004). The increased incidence of PTSD in the U.S. military corresponds with multiple and longer deployments, the difficulties of counter-terrorism, and the use of National Guard members who may not have received in-depth preparation and training for overseas military combat (Andraesen, 2010). Misdiagnosis may also contribute the phenomenon as a recent investigation by the Veterans Affairs Office of the Inspector General, reluctantly concluded that some vets were seeking a diagnosis of

PTSD and getting treatment in order to raise their disability rating and receive more compensation (Junger, 2016).

Of course, most veterans are likely not malingering, leaving other factors to account for such a high rate of PTSD. While combat exposure increases one's risk of developing a mental health condition, studies show that a large proportion of suicides and mental health concerns occur amongst service members who have not deployed or been exposed to combat. For instance, Ramchand, Acosta, and Burns found that of the 305 completed suicides in 2011, 59% had no history of deployment and of those who did deploy, 82.9% had no direct combat exposure (2011). Rather, causes of suicide are significantly linked to gender (male), alcohol abuse, and mental disorder and have been shown to not necessarily have a direct causal connection with deployment and combat (LeardMann et. al, 2013).

Research has also found that many service members have a history of complex trauma, having experienced one or more traumatic events prior to their military experience. Rates of abuse among active duty service members, reservists, and retired veterans vary widely, with 25-46 percent reporting a history of physical abuse or assault, 2-22 percent reporting a history of sexual abuse or assault, 25 percent reporting experiencing both physical and sexual abuse, and 33 percent reporting a history of emotional abuse (Department of Veterans Affairs, 2013; Patrick, Critchfield, Vaccaro, & Campbell, 2011; Seifert, Polusny, & Murdoch, 2011). A history of complex trauma has been shown to increase the likelihood such service members will have difficulty developing trusting relationships both in and out of the military, perhaps indicative of insecure attachment. OEF/OIF/OND veterans are also unique in their demographic

characteristics and family make-up; they tend to be much younger than in previous conflicts, with close to 40 percent (39.4 percent) of the total force 25 years of age or younger (Department of Defense, 2013).

Unit cohesion or strong emotional bonds within a unit have been found to mitigate the effects of previous trauma. For instance, one study of Israeli recruits found that unit cohesion reduced the effects of attachment anxiety on instrumental functioning, (Rom & Mikulincer, 2003). This suggests that high unit cohesion may actually be able to counterbalance the effects of childhood trauma. On the other hand, if a unit has low cohesion or worse, the environment is toxic, this may increase the risk of developing PTSD independent of combat exposure (Junger, 2016; Bartone, 2006).

Even when service members develop strong emotional bonds with their unit, they do so at the risk that they might suffer the loss of a close friend. Marlowe found that having a friend die, is the most psychologically devastating thing that can happen to a service member (1979). He found that service members were much more likely to have a psychological breakdown in the moment or later in life related to losing a buddy than to experiencing a threat to one's own life. At best, many who were part of a cohesive unit experience alienation and detachment when they return home or separate from the military and try to relate to those at home. Several findings suggest that whether veterans develop PTSD is greatly affected by the level of understanding and the welcome they receive by the family and society they return to (Junger, 2016). In recent years, most civilians in modern society have been far removed from the front lines and the experience of service members leading to what scholars have called the "military-civilian cultural gap" (Tanielian & Jaycox, 2008). Research suggests that relationships between service

members and civilians become complicated by the stigma of mental illness, myths and misunderstandings about veterans, civilian opposition to war, and military/civilian cultural differences (Tanielian & Jaycox, 2008). As a result service members who return to modern society, whether after redeployment or retirement, tend to feel isolated and unappreciated (Junger, 2016).

Still another factor that may contribute to response to trauma of service members is military sexual trauma (MST). While the traditional hierarchical nature of the military is meant to promote discipline, order, and teamwork, in cases where leaders abuse their authority it has led to harmful practices such as scapegoating, hazing, sexual harassment and sexual assault. While sexual assault rates have recently decreased thanks to policies and programs aimed at protecting victims and punishing perpetrators, it remains a significant problem. Schenck (2014) found that 4.3 percent of active duty women and 0.9 percent of active duty men experienced military sexual assault. Unfortunately, 62 percent of women who reported military sexual assault to a military authority perceived some form of professional or social retaliation with their report, pointing to the impact that lack of unit support can play in response to trauma.

Finally, access to treatment and willingness to seek treatment are major contributing factors to recovery from trauma in service members. Half of the service members returning from deployment with TBI, PTSD or depression seek treatment, and of those who sought treatment, only half reported receiving what they believed was adequate treatment (Tanielian & Jaycox, 2008). Additionally, 43 percent of Iraq and Afghanistan war veterans who responded to a 2013 survey said they did not seek mental health care because of a perceived negative impact on their careers, 33 percent said they

did not want to be perceived differently by their peers (Iraq and Afghanistan Veterans of America Member Survey, 2013). Moreover, according to the Veterans Administration, fewer than half of all the nation's 22.3 million veterans are enrolled within the system. Based on these findings, it's not surprising that a significant number of veterans experience relationship difficulties and psychological hardships after separating from the military.

Shifting our Focus: Resilience

While much work needs to be done to address the negative and potentially traumatic aspects of military service, understanding the positive aspects is of great importance in order to promote resilience in service members. In the past decade there has been a shift to examining what helps service members adapt in the face of highly challenging circumstances. For instance, in an effort to prevent ongoing increase in PTSD among service members the army implemented an institution wide effort, the Comprehensive Soldier Fitness Program (CSF) in 2009. The CSF program aims to apply a theoretical framework based in a positive psychology approach to prevention that assumes that traits like optimism and contentment can act as buffers against psychopathology. Thus the goal of the program is to identify and cultivate such traits in at-risk individuals and in turn, help service members prepare for and “bounce back” from the stresses that come with military service, especially military combat.

The CSF conceptualizes resilience as overall physical and psychological health and defines it as “mental, physical, emotional, and behavioral ability to face and cope with adversity, adapt to change, recover, learn and grow from setbacks.” It further breaks down psychological resilience into five “dimensions of strength” — social, emotional,

family, spiritual, and physical —and provides training modules to military leaders for each dimension (Casey, 2011). These leaders then return to their units and teach soldiers coping skills like gratitude and focusing on the good aspects in each dimension regardless of circumstances. While this program has been received positively by many military leaders, some researchers have raised concerns and questions about whether the program is effective and achieving its stated goals (Steenkamp, et al., 2013; Eidelson et al., 2011; Bonanno, 2012).

One of the major goals of the CSF Program is to prevent the onset of or decrease symptoms of PTSD (Eidelson et al. 2011; Steenkamp et al. 2013). However, critics noted the program was developed from an intervention to reduce stress in college students and have doubted whether it can be effective in managing the severe stress resulting from traumatic experiences such as combat exposure (Eidelson et al. 2011; Steenkamp et al. 2013).

Consistent with recommended practices in organizational change, Steenkamp et al. (2013), suggested that before implementing the CSF intervention at such a wide scale, it is important to understand the numerous experiences inherent to military training and culture that foster resilience. For instance, good leadership, morale, cohesion, and already existing pre-deployment training have been repeatedly associated with lower PTSD symptoms (cited in Steenkamp et al. 2013). Building on and emphasizing current pathways to resilience in the military could have provided an important and likely more effective method than one that did not use existing structures and processes.

Scholars have also questioned the way resilience was conceptualized in CSF. For instance, when CSF was first launched it defined resilience as “the maintenance of

normal functioning in face of adversity”. However, psychological distress can also be characterized as a normal response to a traumatic situation, and the CSF conceptualization of resilience could increase the stigma of PTSD and help-seeking behaviors in the military. Furthermore, while it is helpful to show service members responding in positive ways with positive emotion to trauma (as the CSF program does), several scholars argue it does not do enough to explain the reality of trauma. On the contrary, they argue that almost everyone responds with a full range of positive and negative emotions and most experience various levels and time periods of distress and psychological symptoms before returning to a previous level of functioning (Steenkamp, et al., 2013; Eidelson et al., 2011, Held, 2004; Taylor, 2001; Coyne & Tennen, 2010).

Despite these criticisms, the CSF program was a step in the right direction by acknowledging the need to attend to different dimensions of resilience (social, emotional, family, spiritual, and physical). Additionally, it assumed that people can integrate and make meaning of their traumatic experiences by encouraging service members to attend to their well-being across dimensions. Nonetheless, given the concerns mentioned above, CSF alone is likely not enough to prepare soldiers for the difficulties they face and there is currently no evidence that the program has prevented PTSD in service members.

From Resilience to Post-Traumatic Growth

The current study seeks to build on the CSF program and take one step further to understand how service members might experience positive growth as they struggle to cope in the aftermath of the trauma. While rapidly returning to baseline functioning is certainly a desired outcome following a traumatic experience, some trauma survivors report gradual attainment of a higher level of functioning than before they experienced

the trauma. This positive change does not occur as a result of the trauma itself, but rather as a result of the struggle to deal with the trauma and its psychological consequences. (Tedeschi & McNally, 2011). While psychologists and psychiatrists have long examined the idea that tragedy and suffering can lead to personal transformation, it is only in the 1990s that it has begun to be studied systematically. Tedeschi & Calhoun (1996) developed the Posttraumatic Growth Inventory and found that when growth occurs following a trauma it tends to occur in five domains: renewed appreciation of life, new possibilities, enhanced personal strength, improved relationships with others, and spiritual change. Studies have found that people experience these changes following various traumas, such as bereavement (Cadell & Sullivan, 2006; Znoj, 2006), war (Lev-Wiesel & Amir, 2006; Rosner & Powell, 2006), and life-threatening disease (Hefferon, Grealy, & Mutrie, 2009; Stanton, Bower, & Low, 2006).

While there has been an increase in the systematic study of PTG, researchers have only begun to study this phenomenon in US service members (Rosner & Powell 2006). This area is ripe for study as the idea of PTG could complement the military's recent focus on resilience. Tedeschi and Calhoun (2004) have stated that PTG is not the absence of any negative emotions or pain. Rather, it is assumed that in order for growth to occur, both positive and negative emotions and the painful realities left by the adversity must be accepted and processed at both a cognitive and an emotional level. In fact, the individual may still experience considerable distress and psychological pain as result of the adversity and develop a greater sense of purpose and meaning in life. Such knowledge could help service members who may already feel they are "broken" after experiencing a military trauma see a potential pathway to positive change. Indeed,

several studies have found that many people who experience PTSD may also experience PTG (Tomich & Helgeson, 2004; Hobfoll, Canetti-Nisim, Johnson, et al., 2007).

One such study examined the effects of severe stress on US Air Force prisoners of war in Vietnam (Sledge, Boydstun, & Rabe, 1980). In a comparison of the POWS versus the controls, the researchers discovered that the POWS rated themselves as experiencing greater improvement in areas of patience, the ability to differentiate the important from the trivial, temper, and pessimism. Interestingly, the more stress the POWS reported having experienced, the greater improvement they reported. A follow up study several years later, further confirmed this and found that the POWS were more likely to help others through the disclosure of their experience and by being involved in solving community problems and in politics (Feder et al., 2008). The later study also found a correlation between PTSD and growth, showing that PTSD and growth can occur together and are not necessarily mutually exclusive.

Another study found that PTG was related to younger age, greater PTSD symptoms, unit support and a willingness to approach and deal with the trauma in a sample of OIF and OEF veterans (Pietrzak et al. 2010). A study of veterans from the first Gulf War found that higher levels of social support predicted the evidence of PTG (Maguen, Vogt, King, King, & Litz, 2006). Finally, a study by Tsai, Sippel, Mota, Southwick, and Pietrzak (2016) found that PTG was best predicted and maintained by a combination of a meeting diagnostic criteria for PTSD, purpose in life, altruism (or being involved in doing something for others), gratitude, and religiosity. A common theme in these studies is the importance of social support in PTG.

While the concept of PTG can provide hope for service members who have experienced trauma, it is important to accurately understand PTG and not erroneously conclude that trauma itself is positive. On the contrary, Tedeschi & Calhoun (2004) clearly state that traumatic events lead to distressing responses and sometimes long lasting psychological disturbances. As noted, the experience of a trauma does not produce the growth, rather the attempts to cope and the struggle that take place in the aftermath of the trauma is believed to potentially lead to positive transformation. Additionally, while the evidence suggests that PTG is common, it should not be assumed that it is universal or that it is a necessary outcome for full recovery (Tedeschi & Calhoun, 2004).

Promoting post-traumatic growth in service members. One way to ensure the message of PTG is properly understood and better received at both the individual and institutional level is to develop a sound theoretical framework for and a better understanding of the variables that influence and even increase the likelihood of PTG. Janoff-Bulman has developed a model of recovery, post-trauma that suggests cognitive and emotional processes mediate the rebuilding of trauma survivors shattered assumptions (2010). Calhoun and Tedeschi have described this process as similar to a community rebuilding in the aftermath of an earthquake, where the trauma victim rebuilds their previous assumptions about the world and their place in it, in a way that can withstand future shocks (1999). Studies on the process of resilience and PTG have consistently identified four general factors that promote the successful resolution of crises and subsequent positive growth. These four pathways include social support (reaching out to provide and receive support from others), making meaning (making sense of the

crisis or threat, including finding benefits or gains from the adversity), regulating emotions (awareness and acceptance of a full range of emotions), and creative coping (coping in the moment and/or envisioning new possibilities stemming from the adversity) (Echterling & Stewart, 2010).

These pathways can serve as a framework for understanding the ways in which PTG may be encouraged by clinicians, peers and by and within the larger culture and institution of the military. The current study will explore the role that attachment in military relationships play in promoting these pathways and in turn promoting PTG. Research indicates that “symptoms of combat-related trauma and posttraumatic stress are inversely associated with service members’ relationship quality and stability” (Institute of Medicine, 2010, p. 68). Much of the research on PTSD points to the interpersonal nature of the disorder as PTSD has been correlated with relational conflict in parent/child relationships and friendships (Institute of Medicine, 2010). Lack of social support has been discovered to be twice as likely to predict PTSD than the severity of the trauma itself. In fact, attachment relationships have been conceptually linked to resilience. Atwool (2006) has stated:

Attachment theory adds weight to resilience theory by clearly outlining the significance of relationships as the key to all aspects of resilience--culture, community, relationships and individual. Integrating attachment theory and the concept of resilience clarifies the adaptive nature of behavior and refines our understanding of the types of relationship experiences necessary to promote positive adaptation. (p. 327)

As such, embedding resilience and PTG more explicitly in attachment theory in a military context could help clarify the key function that relationships play in helping service members integrate and make sense of the highly challenging circumstances they face in military service.

Attachment Theory

Attachment to a significant other is one of the most basic human needs (Bowlby, 1988). In the 1950's, John Bowlby posited that a child's attraction to her mother was not determined by a desire for food and hunger alone, as proposed by Freud but rather by a biological drive for human connection as necessary for survival as sustenance. Harry Harlow laid the groundwork for empirical support of Bowlby's theory by showing that baby rhesus monkeys preferred a soft surrogate mother made out of terry cloth with no milk to a wire surrogate mother with milk, (Harlow & Suomi, 1970). Since then, countless empirical studies have established attachment as one of the most basic biological drives in humans (Bowlby, 1988).

Attachment theory describes an affectional bond, commonly formed first between an infant and caregiver (Bowlby, 1969). It is evolutionarily adaptive for infants to seek to form an affective tie with a caregiver to meet physical and psychological safety needs (Ainsworth et. al., 1989). Attachment enhances the chances of survival because it keeps the infant in proximity to a protective adult. Ainsworth (1979) described caregivers as being the "secure base" from which children move off and learn about the world, and as a "safe haven" to which they can return for refueling and protection. Secure relationship patterns provide the foundation and context for typical, healthy psychological growth and

development and a template for adaptively dealing with physical and psychological threat (Bowlby, 1988, 1969).

A landmark example of how attachment can influence response to stress comes from the laboratory of prominent attachment researcher Mary Ainsworth, who developed a method called the “Strange Situation” to determine individual differences in attachment behaviors (Miller, 2016). In Ainsworth’s laboratory, she observed young children as they were separated from their mothers, introduced to a stranger, and later reunited with their mothers and found “individual differences in the child’s expectations about the availability of the caregiver” (Weinfeld, Sroufe, Egeland, & Carlson, 2008, p. 80). Ainsworth concluded that children experienced distress when separated from the caregiver, and peace and safety when reunited. Fear occurred when there was a threat in the child’s environment and as a result the child would turn to the mother to seek safety and assurance. Anxiety occurred when mother was absent. However, Ainsworth noted that children had differing responses to the same experiences (threats, separations and reunions) that led to a classification system which distinguishes between *secure* and *insecure* attachment styles (Weinfeld et al., 2008). Secure children preferred their caregiver over a stranger and sought proximity to the caregiver upon reunion. A securely attached child also used the caregiver as a secure base from which to explore their new environment. On the other hand, insecure children didn’t engage emotionally with the caregiver and often ignored their caregiver upon reunion. Insecure children also tended not to explore the new environment when in the presence of the caregiver (Weinfeld et al., 2008).

Numerous studies have found that around the world, 60-70% of children and caregivers are secure (Van Izendoorn, Schuengel, & Bakersmans-Kranenburg, 1999). This likely translates to adulthood as a similar classification system has been postulated for adults where *secure* adults, like secure children, feel worthy and lovable and expect that others will generally be responsive and accepting of them. Such individuals tend to feel comfortable with intimacy, seek and give support during distress. *Insecure* adults on the other hand, tend to have had a history of attachment figures who have been either dismissing and inconsistent, or both overinvolved and rejecting. This can lead to the belief that world is unsafe and a tendency to avoid getting too emotionally involved in relationships, and thus be less likely to seek and give support in times of distress (Mikulincer & Shaver, 2008).

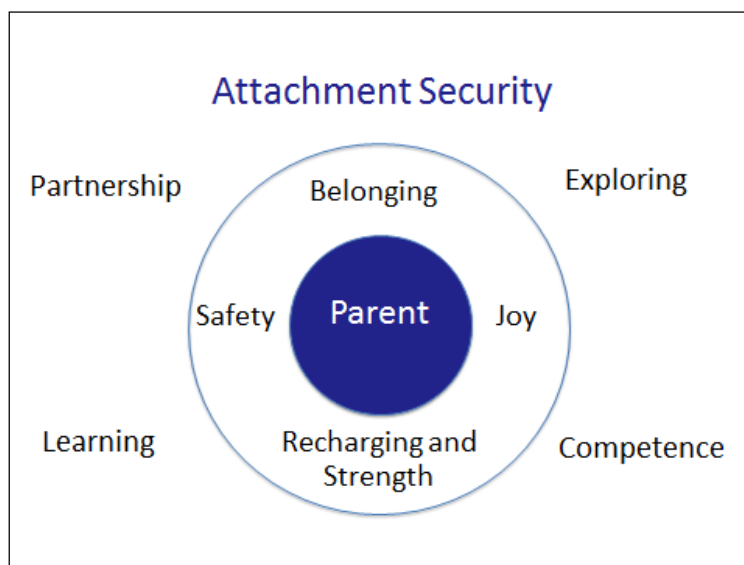
Ainsworth further clarified how secure attachment has implications for how willing an infant is to explore their world. Ainsworth (1979) noted:

During the prolonged period of human infancy, when the protective function of attachment is especially important, its interplay with exploratory behavior is noteworthy. The function of exploration is learning about the environment—which is particularly important in a species possessing much potential for adaptation to a wide range of environments. Attachment and exploration support each other...The presence of an attachment figure, particularly one who is believed to be accessible and responsive, leaves the baby open to stimulation that may activate exploration. (p. 934-935).

One model that helps to illustrate the need for both security and exploration is an attachment intervention used to teach parents and therapists their role as a secure base

called Attachment Security (Whelan & Stewart, 2015) (see Figure 1). The illustration depicted was developed as part of an 8-week intervention to teach parents attachment theory's key constructs that relate to parenting. The parent is located in the center of the circle to help and co-regulate the child as necessary. The area inside the circle represents the child's inside or internal emotional needs for safety, belonging, joy, recharging and strength soothing. In other words, the inside of the circle is the child's need for a *safe haven* and protection and comfort in times of danger and/or distress. The area on the outside represents the child's outside or external needs for exploration, for partnership, for learning about people and the environment, and becoming competent in the world. In other words it illustrates how the caregiver can act as a *secure base* and support the child in her exploration. To facilitate this process the authors reference Bowlby (1988) and suggest parents act "compassionate, wiser, and competent"; or in other words that they act as nurturers and protectors (Whelan & Stewart, 2015). Researchers have demonstrated that attachment security predicts individual differences in relationship functioning; affect regulation, social competence, conflict resolution skills, and psychopathology across the lifespan (Miller, 2016; Shi, 2003).

Figure 1. Attachment Security



Adult attachment researchers have confirmed a significant association between self-reports of attachment and the quality of close relationships (Feeney, 1999; Shaver & Hazan, 1993) and daily social interactions (Pietromonaco & Barrett, 1997; Tidwell, Reis, & Shaver 1996). Individuals with attachment anxiety (an insecure attachment style) have strong needs to be accepted, supported and admired by others in way that creates tension and discord in their close relationships. Individuals with attachment avoidance, also an insecure attachment style, are less likely to be uncomfortable with intimacy, self-disclosure, and interdependence such that it becomes difficult for them to develop and maintain meaningful relationships. Attachment style has both a direct and global influence on one's close relationships (Shaver & Hazan, 1993).

While attachment bonds tend to be stable across the lifespan, there is evidence that traumas like war, tragedy, and abuse can disrupt attachments and impact adult internal working models of their emotions and relationships (Bretherton, 1985).

Furthermore, deployments with their separations and reunions, inevitably activates one's attachment system. Deployment can be a potential threat to a service member's sense of security as they are separated from the secure base of their family. This is especially true if the service member is exposed to combat. On the other hand, war can lead to the development of intimate bonds with fellow service members that promote resilience. However, when the brutality of war disrupts these bonds through loss of life and limb, it can be devastating. Moreover, upon redeployment, the attachment system becomes activated again as service members return home and are separated from their "deployed family" whom they relied on for physical and emotional survival. Given the frequency of separation, potential to be in harm's way, and loss experienced by many service members, it can be difficult to develop and maintain consistent, caring relationships.

Attachment and Post-Traumatic Growth

Attachment relationships have been conceptually linked to resilience. Through continuous interaction with the caregiver the child develops internal "working models." These internal working models consist of beliefs and expectations of the self and of interpersonal relationships and are brought to bear in the most in stressful conditions, particularly those related to separation, fear, and distress (Bowlby, 1969; Ainsworth, Bell, & Stayton, 1972).

Mikulincer and Shaver (2008) proposed an innovative "broaden-and-build cycle of attachment security" (p. 512). The model illustrates the recurring influence of relationship security. The broaden-and-build cycle is,

...a cascade of mental and behavioral events that enhances a person's resources for maintaining a calm and confident state of mind when dealing with life tasks,

threats, and challenges, and that broadens a person's perspectives and capacities. The actual or symbolic availability of comforting, caring attachment figures, combined with their responsive provision of protection and support, generates feelings of safety and security, enhances a person's sense of self-worth and lovability, and builds confidence in the benefits of seeking support from relationship partners. Over time, repeatedly attaining felt security enhances and reinforces a person's coping capacities, creating a flexible repertoire of coping skills that increasingly functions autonomously. (p. 512)

Traumatic events at individual and large scale levels often lead people to reach out to others to receive and give support. Having a secure attachment style increases the likelihood a service member will engage in cognitive processing, disclose concerns surrounding traumatic events, and perceive the reactions of others to self-disclosures in a more positive light.

From this perspective, attachment security in relationships is foundational to many social factors found to be important for resilience in the military such as relationship quality, social support, group cohesion, and belongingness. Only a few studies have examined the relationship between attachment and posttraumatic growth and no studies have examined this relationship in US service members. Exploring the connection between PTG and attachment security in a military context could help clarify the functions that relationships play in helping service members integrate and make sense of the highly challenging circumstances they face in military service. Depending on the level of attachment security, we may be able to anticipate how service members will respond to trauma. For instance, if a service member is not securely attached, he or she

may have difficulty trusting and relying on social support and group cohesion even when it is there, thus making it harder for them to make sense of stressful events.

Attachment and Post-Traumatic Stress Disorder

Relationship problems can be both a risk factor for developing PTSD and a result of the disorder (Escolas & Hildebrandt, 2012). For adaptive working models to be developed, a caregiver must be sensitive to and respond consistently to a child's needs for safety and security (Bowlby, 1969). Evidence suggests that this results in an individual's ability to regulate negative affect in a constructive way and in turn manage anxiety. Positive experiences with responsive others during early every day and stressful experiences results in a secure attachment style and the corresponding ability to manage negative emotion, acknowledge distress, and seek the help of supportive others for comfort and support (Kobak & Sceery, 1988). On the other hand, those with unresponsive caregivers may not have a well developed internalized sense of self and others resulting in greater difficulty acknowledging distress and negative emotions along with a thwarted view of the importance of relationship and social support in coping. Some persons may express hostility in social relationships, unfortunately making it harder for them to receive the necessary emotional support. Yet others, as a result of early attachment experiences may have developed a low threshold for distress and become preoccupied with or over dependent in their relationships (Kobak & Sceery, 1988).

Indeed, PTSD has been increasingly linked with attachment because of the interpersonal nature of the disorder (Escolas & Hildebrandt, 2012). Insecure attachment style appears to be associated with more PTSD symptoms whereas secure attachment

style appears to be associated with less PTSD symptoms across various types of attachment measurements and methods (Scharf et al., 2004; Riggs & Riggs, 2011; Dekel, 2007; Escolas & Hildebrandt, 2012; Currier et al., 2012 & Nye et al., 2008). Moreover, cross-sectional and longitudinal studies have shown that attachment insecurity is associated with PTSD symptoms in people who served in Vietnam (Renaud, 2008), veterans of the 1973 Yom Kippur War (Dekel, Solomon, Ginzburg, & Neria, 2004), and prisoners of war from the United States (Dieperink, Leskela, Thuras, & Engdahl, 2001) and Israel (Mikulincer, Ein-Dor, Solomon, & Shaver, 2011; Solomon, Dekel, & Mikulincer, 2008). Furthermore, a multivariate analysis of veterans showed that attachment-related anxiety and avoidance were each uniquely associated with PTSD symptoms, psychiatric distress, and hazardous drinking, when controlling for demographic and military background factors (Currier et al., 2012). Attachment theory presents a powerful framework to understand how PTG occurs and can inform policies and treatment of PTSD in veterans.

Attachment, Groups, and Group Cohesion

Although resilience and attachment are typically applied at the individual level, these constructs have also been related at the group and systems levels. Given the importance of teamwork in the military, exploring the application of group attachment to military units may provide greater understanding of the key relational factors at play in unit. The resilience literature has explored the resilience of families (e.g. Simon, Murphy, & Smith, 2005; Walsh, 2007), communities (e.g. Walsh, 2007), and the environment (e.g. Perrings, 1998). Researchers have proposed that in organizations, group dynamics, and relationships between followers and leaders can be seen as types of

emotional attachments conceptually similar to those between children and parents; adolescents and friends; and adults and romantic partners (Rom & Mikulincer, 2003; Chen & Mallinckrodt, 2002; Mallinckrodt & Chen, 2004; Shechtman & Rybko, 2004). Smith et al., (1999) proposed that a group (representation of the organization itself or the network of relationships that make up the organization) may act symbolically as an attachment figure.

Mikulincer and Shaver (2008) propose that at the organizational or group level, attachment can be understood to occur via group cohesion. Group cohesion is described as coordination, cooperation, support, and consensus among group members that leads to learning and effective team performance. From an attachment perspective the higher the group cohesion, the more likely the group members will feel safe, comfortable and encouraged by the group. In other words the higher the group cohesion, the better the group is able to serve as a secure base and safe haven for its members. Thus members will be more comfortable seeking support, exploring new environments and learning new social, emotional, and cognitive skills (Forsyth, 1990).

Researchers (Mikulincer & Shaver, 2008) assert that because groups can serve attachment functions, group members can see their group as a symbolic attachment “figure” and develop secure attachment bonds with the network of individual group members or with the group as a whole. During especially demanding, threatening or challenging group activities, group members will project their internal working models of self and others onto the group, which can color or distort an individual’s perception of group responses, behaviors, emotions in much the same way that working models can bias perceptions of relationship in dyadic attachments. Thus, a more secure individual is

likely to project a more positive working model onto the group and perceive the group as being more supportive which in turn will allow them to feel more emotionally secure during group activities. On the other hand, someone with a less secure attachment will likely see the group as less available, sensitive, and responsive.

Rom and Mikulincer (2003) proposed that secure members of the group would be better at forming an emotional bond with the group than insecure members. Results confirmed this, showing that less secure members had greater difficulty seeing the group as available, sensitive, and responsive than secure members. These researchers also examined the impact of dyadic and group attachment on instrumental functioning of soldiers and found that attachment at both the dyadic and group levels contributed unique variance to functioning. A measure of group attachment found that the level of security/insecurity at the dyadic level correlated with their level of security/insecurity at the group level.

Attachment and Military Service Members

Given the relationship between attachment and coping capacities, explicitly embedding resilience and PTG in attachment theory may provide a theoretical framework for understanding why and how service members respond differently to highly challenging circumstances. The military is inherently organized in such a way that it recognizes the importance of relationships. For instance, the Army refers to a “battle buddy” and the Air Force to a “wingman” as someone who is there to ensure their buddy’s wellbeing and help them in any circumstance. Furthermore, military members often refer to their unit or squadron as their military family. Indeed, the CSF recognized that relationships (social support) are a necessary ingredient for soldiers to respond to

challenging circumstances in a resilient manner. However, attachment theory makes explicit that an individual's relational security is foundational to rather than being secondary to or only a means to resilience or PTG.

Given the amount of research on attachment theory and its applicability to military service, it is surprising that relatively few studies have applied this construct to the experiences of military service members. Existing studies suggest that the strongest protective factors for veterans' resilient response to trauma are those factors that foster a secure attachment, viz., sensitive and responsive parenting among children and supportive family or other social networks among adults (Charuvastra & Cloitre, 2008). Veterans' depressive and trauma symptoms seem to be more associated with factors that foster an insecure attachment such as, poor communication, intimacy problems, relationship dissatisfaction, domestic violence, divorce, parental dissatisfaction, co-parenting disagreement, high conflict, low cohesion and flexibility (Cook, Riggs, Thompson, Coyne, & Sheikh, 2004; Hendrix, Erdmann, & Briggs, 1998; Kessler, 2000; Sayers, Farrow, Ross, & Oslin, 2009).

Evidence of the protective nature of secure attachment in military personnel was revealed in a study on the attachment and coping styles of Israeli soldiers during four months of combat training (Mikulincer & Florian, 1995). Findings suggested that securely attached soldiers perceived challenging circumstances in a more positive light and with a greater sense of inner strength than insecure soldiers, which resulted in adaptive coping. On the other hand, insecure-preoccupied attached soldiers perceived challenging circumstances in a more negative light and overemphasized the threat which led to feelings of inadequacy and helplessness and less adaptive coping.

Another study found that unit cohesion in the Israeli military can moderate group attachment suggesting that like other attachment relationships group attachment is a result of a joint interaction between the unit's availability as a whole and what each individual unit member brings to the group that determines the health of the attachment bond (Rom & Mikulincer, 2003). Furthermore, this same study concluded that unit cohesion reduced the effects of attachment anxiety on instrumental functioning, but didn't do so in avoidant recruits (Rom & Mikulincer, 2003). This seems to be in accordance with Mikulincer and Shaver (2008) proposal that "failures in early attachment relationships can be revisited within the context of therapeutic groups and that groups can provide the context for supporting authentic connection with one's own affect and encourage resonance with the affect of other people" (p. 140).

Summary of Literature Review

The influence of secure relationships in posttraumatic growth and PTSD has been shown to be dynamic, interpersonal, and uniquely constructed. Military missions whether at home and abroad often result in separations from family and friends. Many service members return with mental and emotional wounds that make it difficult for them to reconnect and feel safe and secure in their relationships with family and their community. Yet many of these service members develop strong interpersonal bonds with their fellow service members, their unit and military leaders that help them adapt to the highly stressful changes they face.

Veterans with and without combat exposure evidence a high rate of PTSD and the military has tried to institute resilience-based programs in anticipation of the psychological challenges experienced by soldiers. At the same time, research has shown

that some service members report positive outcomes associated with military trauma including the phenomena of PTG.

Studies have shown that social support plays a significant role in whether an individual is able to be resilient and experience PTG. However, only a few studies examine the relationship between attachment and PTG and none of these examine this relationship in US service members. While the studies conducted to date offer insight into the associations between attachment types, resilience, PTG, and PTSD, the results are a static and depersonalized depiction of vibrant factors that do not further our understanding of the animated and nuanced relational processes that underlie these connections.

Purpose of the Current Study

The constructs from attachment theory (safe haven and exploration) have begun to be the focus of research with the military. Attachment theory offers a distinctively compatible approach for examining military experiences, due to the primacy of relationships and the presence of separations and threat. In the current study, attachment was used to examine the statistical relationships and qualitative dimensions among PTSD, resilience, and PTG. Analyzing descriptions of service members secure attachment bonds with fellow service members, leaders, and with their unit as a whole is an innovative component of the study.

Research Questions and Hypotheses

The quantitative aspect of this study explored the relationship between service members' attachment security, and the presence of PTSD, and PTG. A quantitative measure based on attachment constructs (the Military Relationships Scale) was developed

and used to assess attachment security amongst service members. The attachment security of a service member with a fellow service member, a leader, and unit (referred to as military relationships below) was also examined. Factors which have been shown to influence symptoms of PTS and PTG in prior studies were investigated to determine their potential impact with the current sample. Thus, I hypothesized the following:

Hypothesis 1. Higher level of reported attachment security and psychological safety in military relationships will be positively associated with PTG.

Hypothesis 2. Higher level of reported attachment security and psychological safety in military relationships will be negatively associated with PTSD.

Hypothesis 3. Controlling for factors known to be associated with PTG (age, years of service, rank, education, and combat related variables) attachment security and psychological safety in military relationships will predict posttraumatic growth.

Hypothesis 4. Controlling for factors known to be associated with PTSD (age, years of service, rank, education, and combat related variables) attachment security and psychological safety in military relationships will predict posttraumatic stress.

The qualitative aspect of this study was designed to provide in-depth, descriptive information about the service member's attachment-related and traumatic military experiences. A central focus of the study is how dimensions of attachment theory may help understand and explain service members' adaptability and adjustment to stressful military experiences. Toward that end, an innovative on-line application of an established attachment interview was developed to provide the information about the quality of the relationships the respondents experienced in the military (Military Attachment Survey). To supplement quantitative measures of PTSD and PTG, data was

collected and coded regarding types of traumatic events the respondents survived, descriptions of how the respondents coped with significant stressors, and the lessons they believed they learned.

The qualitative data seeks to provide specific and personal information about what service members identify as their most traumatic experience, how they have changed as a result of this experience, how they view their relationships with others in the military, and how they coped. Attachment theory and resilience constructs were applied to examine service members qualitative responses for evidence of “coherence of transcript” (a measure of secure attachment), safe haven experiences, support for exploration, and dimensions of resilience (social support, emotion regulation, making meaning, and creative coping).

An additional purpose of this study was the development and preliminary validation of the MRS and MAS instruments. The theoretical frameworks of attachment and resilience were intentionally applied in the design of the research questions and in the design of the instruments to determine whether findings are congruent with these theories.

Chapter III

Methods

The current study explored the association between attachment safety and security in military relationships and PTSD and PTG via a mixed methods approach. This chapter discusses the methods involved in conducting the current study and addresses the research design, participants and recruitment, instruments, and the procedures for data collection. The study was approved by the James Madison University Internal Review Board and the protocol was assigned No. 15-0401.

Research Design

A convergent parallel design was used to guide data collection (Creswell & Clark, 2004). Quantitative and qualitative data were simultaneously collected from the same participants using the measures identified below. While both types of data helped inform the current study's hypotheses, quantitative data examined the statistical impact of relationships on response to trauma and relationship quality and qualitative data examined specific relationship qualities, particular crisis events, and the impact and meaning of these in the words of the participants (see Table 1 for a matrix of how the measures relate to each other). Each data set was analyzed separately as described below. Subsequently, the results from each were reviewed to look for convergence, divergence, contradictions, and relationships of the two sources of data.

Participants

Participants for this study were veterans of all branches of the US military (the Army, Navy, Marine Corps, Air Force, Coast Guard) who had served for at least two years active duty or reserves. Participants were recruited via an online snowball

Table 1:
Constructs and Their Qualitative and Quantitative Measures

Type of Measure	Construct		
	Attachment	Post-traumatic Stress	Resilience
Quantitative	Military Relationships Scale	PTSD Check List – Military Version	Post-traumatic Growth Inventory
Qualitative	Military Attachment Survey (MAS) – Coherence of Response	Traumatic Event Report	Open Ended Questions – How did you cope? What did you learn?
	MAS – Evidence of Safe Haven and Support for Exploration		

sampling method. Multiple online list-serves including Student Veterans Associations (SVA) on campuses nationwide, American Psychological Association (APA) Division 19 - Military Psychology, and military related Facebook pages (i.e.; “Air Force Veterans”, “Welcome Home Vietnam Veterans”, “OIF Veteran Community” etc.) agreed to post a link to an online survey designed using Qualtrics software. Three hundred and thirty-one veterans initiated the survey, with 281 survey forms sufficiently complete for quantitative and qualitative analysis. The final number of participants reflected 175 recruited from SVA, 66 from military related Facebook pages, 5 from APA Division 19, and 34 from other sources (i.e., individuals from these groups shared the link with friends and acquaintances).

Participants were 220 males and 61 females between the ages of 18 and 65 ($M = 33$ years, $SD = 7.45$). The sample predominantly endorsed White/Non-Hispanic ethnicity ($n = 210$), while the remaining endorsed Hispanic/Latino/a ($n = 18$), Black/African-American ($n = 16$), Asian ($n = 9$), American Indian/Alaska Native ($n = 3$), Native

Hawaiian Pacific Islander ($n = 1$) and Other/Mixed Race ($n = 24$). The 24 participants categorized as “Other/Mixed Race” either reported more than one ethnic group or selected “Other” and wrote in an ethnic group not listed (i.e. Russian).

Education level amongst participants ranged from high school or high school equivalent to graduate school (High School or GED: $n = 18$; Some College/Associates Degree/Vocational or Trade School: $n = 147$; Completed Bachelors: $n = 67$; Completed Graduate School: $n = 49$, Doctoral Degree = 10).

Of the 281 participants whose data were analyzed most were Army and Air Force (Army: $n = 125$; Air Force: $n = 72$) followed by Navy, Marine Corps (Navy: $n = 44$; Marine Corps: $n = 34$) and a few from the Coast Guard ($n = 5$).

Several combat related variables were collected including whether participants received Hostile Fire/Imminent Danger Pay, Hazardous Duty Pay “during your military service” and whether they fulfilled a combat (i.e.; infantry) or support (i.e.; food service specialist) role. In order to enter this job-related variable into the quantitative analysis, the primary researcher coded their job as combat or support. Two-hundred seven participants reported having served in a support role compared to 72 who reported serving in a combat role. Furthermore, 189 participants (out of 280 who responded to the question) reported receiving Hostile Fire/Imminent Danger Pay and 213 participants reported receiving Hazardous Duty Pay.

Participants were asked how many deployments they have completed lasting 30 days or more. Ninety-one participants completed three or more deployments, 85 completed one, the remainder completed two ($n = 62$) or none ($n = 40$).

Participants' current military status ranged from non-retired veteran ($n = 133$) to retired veteran ($n = 77$), Reserves and National Guard ($n = 32$), Active duty ($n = 11$), to Individual Ready Reserve ($n = 26$). Participants' pay grade at retirement (or currently if still active or reserves) was Junior Enlisted (E1-E4: $n = 95$), Senior Enlisted (E5-E9: $n = 147$), Warrant Officer (W1-W5: $n = 1$), Company Grade Officer (O1-O3: $n = 16$), and Field Grade Officer (O4-O6: $n = 21$).

Respondents were asked to report both number of years active duty and years reserves separately. However, as the purpose of this study is to examine the influence of military relationships on PTSD and PTG in general and not based on active duty or reserves status, these years were combined to obtain a "total years of service" variable. An analysis of descriptive statistics revealed that those who reported having served more than 30 years combined reserves and active duty ($n = 7$) were outliers and their means scores on military relationship scales did not differ from others' scores. Thus they were categorized along with those respondents who reported having served 30 years combined. Based on this, participants reported having served between two and thirty years total ($M = 10.84$, $SD = 7.76$, $MODE (n = 54) = 4$).

Instruments

Military Relationships Scale (MRS; see Appendix B). The MRS was developed for this study to assess the level of safety and security a service member perceives in his/her relationship with a "fellow service member whom you felt close to", a "leader whom you felt close to" and a "unit you most identified with" during military service. Questions were based on attachment theory to assess how well participants perceive their "safe haven" needs (i.e.; *I felt safe sharing worries and fears with this person, This*

person remained supportive even if I was angry or upset) and “secure base” needs (i.e.; *I was able to take on hard tasks with the help of this person, I know this person had my best interest at heart.*) were being met. Cronbach's α for the measure overall was .96 and for each relationship (fellow service member = .96; leader = .97; and unit = .97).

Unit Support Scale (USS). The USS is a 12-item self-report instrument from the Defense Equal Opportunity Management Institute that assesses the amount of assistance and encouragement in the war zone from unit leaders and members, and the military in general (King et al., 2006; Vogt, Proctor, King, King, & Vasterling, 2008). The USS was included in this study to assess the convergent validity of the MRS. Factor analysis in one sample revealed a three-factor solution (Pietrzak et al., 2010): (1) unit member support (e.g., “My unit felt like a family”); (2) leader support (e.g., “My superiors treated me as a person”); and (3) military support (e.g., “Military appreciated my service”). Cronbach's α on USS items in the same study was .93 (Pietrzak et al., 2010). For the purposes of this study, a prompt was added to the original instructions to ask participants to think of the unit they most identified with. Cronbach's α for the present study was .96.

Psychological Well-Being (PWB). The PWB (Diener, 2009) is an eight-item scale designed to measure important aspects of human functioning ranging from positive relationships, to feelings of competence, to having meaning and purpose in life. The PWB was included in this study to assess the convergent validity of the MRS. Items are answered on a 1-7 scale, ranging from Strong Disagreement to Strong Agreement and all are phrased in a positive direction. Scores can range from 8 to 56 with high scores indicating respondents see themselves in positive terms across various areas of functioning. While the scale doesn't measure individual domains of well-being, it does

give a summary score across domains widely believed to be important in overall adjustment (Diener, 2009). Cronbach's α is reported as .86 (Diener et. al., 2009). The scale correlates strongly with total scores from other psychometrically valid measures of well-being (Ryff & Singer, 2008; Ryan & Deci, 2000), at 0.80 and 0.69. The Cronbach's α for the current study was .91.

Scale of Positive and Negative Emotions (SPANE). The SPANE (Diener, 2009) consists of 12 items to assess negative and positive emotions (six positive and six negative items). The SPANE was included in this study to assess the convergent and divergent validity of the MRS. Each item is scored on a scale ranging from 1 to 5, where 1 means “very rarely or never” and 5 means “very often or always.” The positive and negative scales are scored separately. The summed positive as well as the summed negative scale can range from 6 to 30. The two scores can be combined by subtracting the negative score from the positive score, and the resulting scores can range from -24 to 24 (Diener, 2009). Cronbach's α ranged from .88 (Diener et. al., 2009) to .89 (Diener et al., 2009). Cronbach's α for the current study was .91 and .85 for the positive and negative scales respectively.

Post-traumatic Growth Inventory (PTGi) (See Appendix B). The PTGi (Tedeschi & Calhoun, 1996) is a widely used measure of perceptions of positive changes experienced by individuals following a traumatic event. This scale consists of 21 items representing five subscales: relating to others, new possibilities, personal strength/growth, spirituality, and appreciation for life. Tedeschi and Calhoun reported high internal consistency ($\alpha = .90$) and test- retest reliability ($r = .71$) as well as good discriminant and construct validity. In this study, participants were instructed to indicate the degree to

which each item occurred in their life as a result of a stressful or challenging military event. For example: *“I more clearly see that I can count on people in times of trouble”* (relating to others) and *“I changed my priorities about what is important in life”* (appreciation for life). Responses were scored on a 6- point Likert scale ranging from 0 (*I did not experience this change as a result of my most difficult crisis or challenge related to military service*) to 5 (*I experienced this change to a very great degree as a result of my most difficult crisis or challenge related to military service*). The phrasing of these scale endpoints was changed from *“as a result of my crisis”* to *“as a result of my most difficult crisis or challenge related to military service”* for the purposes of this study. Higher scores indicate a greater amount of growth experienced. Cronbach's α for the present study was .94.

Posttraumatic Stress Checklist-Military (PCL-M). The PCL-M (Weathers, Litz, Herman, Huska, & Keane, 1993) is a 17-item self-report inventory designed to assess PTSD symptom severity and to screen for a PTSD diagnosis among military populations. Test-retest reliability with Vietnam Veterans was .70 (Weathers et al. 1993), Cronbach's α ranged from .75 (Owens, Herrera, & Whitesell, 2009) to .80 (Weathers et al. 1993) in female Iraq and Afghanistan Veterans and Vietnam and Persian Gulf Veterans, respectively. Respondents used the 5-point anchored scale, ranging from 1 = *Not at all* to 5 = *Extremely*, to report the extent to which they experience symptoms of PTSD. Before responding to the PCL-M, respondents were asked to *“Please take a few moments to reflect on a couple of the most difficult crises/challenges you faced as a service member, related to your military service. Reference this experience as you answer the following questions...”*. Scores range from 17 to 85, with higher scores

indicating greater PTSD symptom severity. The test by itself does not indicate a diagnosis of PTSD, and cutoff scores vary based on population base rates (Wilkins, Lang, & Norman, 2011). For the current study, Cronbach's α was .95.

Traumatic Event Report. The Traumatic Event Report was created to gather qualitative data about the most traumatic event service members experienced. Participants were first given the following prompt, *“Please briefly describe the most difficult crisis or challenge you have faced related to your military service (the one that has had the most impact on you).”* This was followed by the questions, *“What happened (in 200 characters or less)?”* *“Who was involved (in 100 characters or less)?”* *“Where did it happen (in 100 characters or less)?”* The character limits were used to reduce demand for (or likelihood of) a lengthy, and, potentially upsetting, trauma narrative. Each of these questions provided service members with the opportunity to provide open-ended responses. In addition to these open-ended questions, participants were asked, *“How long ago did it occur?”* with the option to choose from a list of time frames. They were also asked, *“Have you experienced an event outside of military service as difficult or nearly as difficult as your most difficult military related crisis or challenge (mark all that apply)?”* They were given the options to mark *“No”*, *“Yes, before joining the military”*, and *“Yes, after joining the military, but it was not military related.”*

Military Attachment Survey (MAS) (see Appendix B). The MAS is a questionnaire consisting of online open-ended questions about service members' relationships with a fellow service member, unit, and leader whom they “felt close to” designed specifically for the current study to assess participants' state of mind with respect to attachment and the degree to which they perceived others as a “secure base” or

“safe haven”. The MAS, created for this study, was informed by the Adult Attachment Interview (AAI) (Main & Goldwyn, 1991), a semi-structured interview where adults are asked, amongst other questions, to choose five adjectives or words that reflect their relationship with their mother and father and then to relate a memory or incident that comes to mind with respect to each adjective they chose. This is done via an in-person interview where interviewers ask the questions emphasizing the word “relationship”, to ensure participants understand they are to give adjectives to describe their relationship with their parent and not just describe the parent. Follow-up probes are provided to ensure participants give all five adjectives. Furthermore, if participants give a poorly elaborated memory or a “scripted” or “general” memory rather than describe the details of a particular incident, the interviewer probes for a second memory. The transcripts from these interviews are then rated for security of attachment, based, in part on the “coherency” with which the adult is able to describe their childhood experiences. Through an advanced coding scheme, aspects of the adult’s attachment quality are determined (Main & Hesse, 1990). In the MAS, participants were asked to type in three adjectives that “tell about your relationship” with a fellow service member, unit and leader “you felt close to”. Parallel to the AAI administration, they were asked to provide a memory or incident that illustrates what they mean by each adjective. Conducting the survey online did not allow for follow-up prompts to ensure participants understood the question or to encourage more elaborate responses. However, this is not necessarily problematic given the AAI questions were designed to be ambiguous and novel enough so as to “surprise the unconscious” (Main, 2010, p. 2). Thus, it is assumed the first response is an authentic and unfiltered response and is representative of the participant’s

attachment security. Subsequent responses allow the person to think and perhaps filter and censor more what they say. Applying Main and Goldwyn's coding guidance (described in the Results chapter), the adjective descriptions of the respondent's relationships were coded for "coherence." A researcher familiar with the "coherence of transcript" analysis of adult attachment interviews (1984) was consulted to create a coding guide. These adjectives and corresponding descriptions the respondents named for service members they were close to were also coded for evidence the person they identified acted as a "safe haven" or provided "support for exploration".

Resilience and Post-Traumatic Growth. In order to gather qualitative evidence and descriptions about whether service members were resilient or experienced PTG, they were asked several open ended questions. First after answering the PCL-M they were asked, *"Has anyone indicated you've changed (positively or negatively) since your crisis or challenge related to military service?"* If they answered yes to this question, they were then asked, *"Who was it and in what ways did they indicate you have changed?"* After answering these questions, they were asked, *"How did you cope with your most difficult crisis or challenge related to military service as a service member? What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?"* Participants were given no word limit in answering each question assessing resilience and PTG. The responses to these questions were then coded for evidence of five general factors identified in the resilience and PTG literature that promote successful resolution of crises, namely social support, making meaning, managing emotions, successful coping strategies, and religious or spiritual growth.

Chapter IV

Results

Quantitative Data Analysis

Quantitative data were first analyzed using SPSS version 22. Analyses to validate a scale designed specifically for this study, the Military Relationships Scale were conducted. Although a comprehensive psychometric validation of the Military Relationships Scale is beyond the scale of this dissertation, correlational matrices were obtained comparing the MRS with an established measure of unit cohesion (The Unit Support Scale) and a measure of well-being the SWB for preliminary validation purposes.

Next, descriptive statistics for the MRS, PTGi and PCL-M were calculated (means, standard deviations, kurtosis, and skewness and normality). Given the prospect of multicollinearity among the predictor variables (military relationships variables) each variable was centered on its grand mean. Centering can allow for more stable estimates that are independent of each other (Kreft, Kreft, & Leeuw, 1998; Kreft, de Leew, & Aiken, 1995). Furthermore, it made sense to center the variables (Military Relationships, PTG, and PTSD) around the mean (rather than around zero) since the variables are ordinal in nature.

Independent t-tests were conducted to assess differences between groups of key demographic variables (age groups, categories of years of service, education levels, combat related variables, military rank) and outcome variables. Subsequently, correlation analyses and regression analyses were conducted with relationship with total MRS score, MRS (Service member), MRS (Unit), MRS (Leader) entered as independent

variables and post-traumatic stress and PTG entered as dependent variables in separate analyses.

Preliminary validation of Military Relationships Scale. Correlations of the MRS with other established measures were assessed as a preliminary way to validate the measure. A correlation matrix for the relationship between MRS (total score and subscales), USS (total score and factors), SWB and SPANE was also obtained (see Table 2 below). Correlations emerged as expected, with total MRS score positively correlating with total USS score and SWB score, $p < .01$, and with the positive emotions subscale of the SPANE, $p < .05$. In terms of divergent validity, MRS total score negatively correlated with the negative emotions subscale of the SPANE, $p < .05$. Furthermore, as expected the highest positive correlations were between specific MRS subscales and USS subscales (between MRS Unit and USS Unit, and between MRS Leader and USS Leader subscales) $p < .01$.

Table 2.

Correlations Between Military Relationship Scale (MRS), Unit Support Scale (USS), Subjective Well-Being Scale (SWB), And Scale of Positive and Negative Emotions (SPANE) (N = 281, 280 for Negative Emotions)

Variables	1	2	3	4	5	6	7	8	9	10
1. MRS Total Score	–									
2. MRS with Service Member	.70**	–								
3. MRS with Unit	.79**	.32**	–							
4. MRS with Leader	.84**	.46**	.46**	–						
5. USS Total Score	.78**	.41**	.78**	.59**	–					
6. USS Unit	.76**	.43**	.76**	.55**	.94**	–				
7. USS Leader	.73**	.36**	.72**	.57**	.96**	.81**	–			
8. SWB	.27**	.23**	.20**	.21**	.18**	.15**	.19**	–		
9. SPANE Positive Subscale	.24**	.14*	.21**	.19**	.20**	.19**	.20**	.74**	–	
10. SPANE Negative Subscale	-.19**	-.12*	-.10	-.22**	-.16**	-.16**	-.16**	-.59**	-.71**	–

Note. * = $p < .05$, ** = $p < .01$.

Descriptive statistics and ancillary analyses. Before assessing the relationship between variables via multiple regression analyses, descriptive statistics and correlation analyses for the measures were obtained. An alpha level of .05 was used for all statistical tests. Means and standard deviations for MRS scores (total score and subscale scores), PCLM scores, PTGi scores, and for demographic variables (compared via PCLM and PTGi scores) are displayed in Table 3. Correlations between MRS score and PCLM and PTGi scores were significant and were consistent with Hypotheses 1 and 2 (MRS total positively correlates with PTGi and negatively with PTS, see also Table 3).

Following completion of the MRS, respondents were asked when the last time they had contact with the fellow service member, leader, and unit they felt closest to. On average respondents reported last having contact with the fellow service member one year ago, with a majority of respondents reporting being in contact with the service member currently and up to 1 year prior (67.2%). Respondents reported last having belonged to the unit that had the most impact on them, on average 3-5 years ago with a majority reporting having belonged to the unit between 5 years and more than 10 years (52.3%). Lastly, respondents reported last having contact with the leader they felt closest 3 years ago on average with a majority reporting having contact between 3 years and more than 10 years (55.1%).

Table 3.
Service Member Reports of Military Relationships (MRS), Posttraumatic Growth (PTG), and PCL'M Score, and Demographic Variables (N = 281, 280 for Rank)

Variables	1	2	3	4	5	6	7	8	9
1. MRS Total Score	–								
2. MRS with Service Member	.70**	–							
3. MRS with Unit	.79**	.32**	–						
4. MRS with Leader	.84**	.46**	.46**	–					
5. PTGi Score	.22**	.12**	.24**	.14**	–				
6. PCLM Score	-.26**	-.22**	-.14*	-.26**	.03	–			
7. Rank ^a	.15**	.03	.19**	.10	-.03	-.23**	–		
8. Education ^b	.11	.07	.09	.09	.14*	-.18**	.61**	–	
9. Hazardous Duty Pay ^c	-.02	-.07	.018	-.01	-.06	-.19**	-.07	-.07	–

Table 2 *Continued*

Variables	1	2	3	4	5	6	7	8	9
<i>M</i>	106.69	40.82	31.98	33.89	48.58	42.28	2	5.13	1.24
<i>SD</i>	24.74	8.25	11.59	11.65	24.34	17.67	1.12	1.50	.43
Range	24–144	8-48	8–48	8–48	0–105	17–85	1–5	2–9	1-2
α	.96	.96	.97	.97	.94	.95			

^aRank/Pay Grade: 1 = *E1-E4*, 2 = *E-5-E9*, 3 = *W1-W5*, 4 = *O1-O3*, 5 = *O4-O6*. ^bEducation: 1 = *Some high school*, 2 = *High school or GED*, 3 = *Vocational/Trade*, 4 = *Some College*, 5 = *Associate's*, 6 = *Bachelor's*, 7 = *Master's*, 8 = *Juris Doctorate*, 9 = *PhD*, 10 = *MD*. ^cHazardous Duty Pay: 1 = *Yes*, 2 = *No*
 $*p < .05$. $**p < .01$.

Demographic variables were then compared with MRS total score. First, mean scores were obtained for participants according to gender, years of military service and rank as it could be reasonably assumed that scores would differ based these demographic variables (See Table 4). Independent samples t-tests were then performed to compare groups. Males scored significantly higher than females on MRS total score $t = 2.791, p < .01$. Additionally, senior enlisted and officers scored significantly higher on MRS total score than junior enlisted $t = 3.199, p < .01$. Finally, as indicated in those with more than one term of enlistment (typically more than 6 years of service) scored significantly higher than those with 6 years of service or less $t = 2.776, p < .01$.

Table 4.

Mean Scores and Standard Deviations for Military Relationships Total Score Across Gender, Years of Military Service, and Rank

<u>Dependent Variables</u>	<u>MRS Total Score</u>	
	<u>M</u>	<u>SD</u>
Male	108.84	23.33
Female	98.97	28.11
Junior Enlisted	100.20	28.31
Senior Enlisted/ Officers	110.04	22.10
One Term of Enlistment (6 yrs or less)	101.72	26.55
More Than One Term of Enlistment	110.19	22.82

Regression Analysis

Sequential regression analysis was employed to determine if addition of safety and security in military relationships improved prediction of report of post-traumatic stress symptoms beyond that afforded by age, years of service, rank, education, number of deployments, and combat related variables. Analysis was performed using SPSS REGRESSION and SPSS EXPLORE for evaluation of assumption of linearity, normality, multicollinearity and homoscedasticity were assessed.

To test for linearity and homoscedasticity, a plot of standardized residuals against standardized predicted values was obtained. Examining the graph revealed a pattern where points were randomly and evenly dispersed throughout the plot which indicates that assumptions of linearity and homoscedasticity were met. To test for normality, a histogram and normal probability plot were obtained.

Visual inspection of the graphs revealed normal distributions (a bell-shaped curve on the histogram and all points lying along the normal probability plot) across variables. Furthermore, skewness and kurtosis were obtained and values fell within the perimeter of -3 to 3 for each variable except for MRS of service members (which fell between -1.836 to 3.887 and is grossly within tolerance). Thus, the assumption of normality was met. Finally, to assess for multicollinearity between predictors, a correlation matrix and VIF values were obtained. All correlations between predictors were well below .90 and VIF were less than 10 (give average), indicating that multicollinearity did not significantly impact the results of the regression model.

To assess the relationship between MRS total score and PTSD score, controlling for demographic variables, a hierarchal regression model was constructed with age, years

of service, rank, education level and combat experience as predictor variables in step 1 and MRS total score entered as a predictor variable in step 2, with PTSD score as the criterion variable. Table 5 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), and R , R^2 and adjusted R^2 after entry of all IVs. R was significantly different from zero at the end of each step.

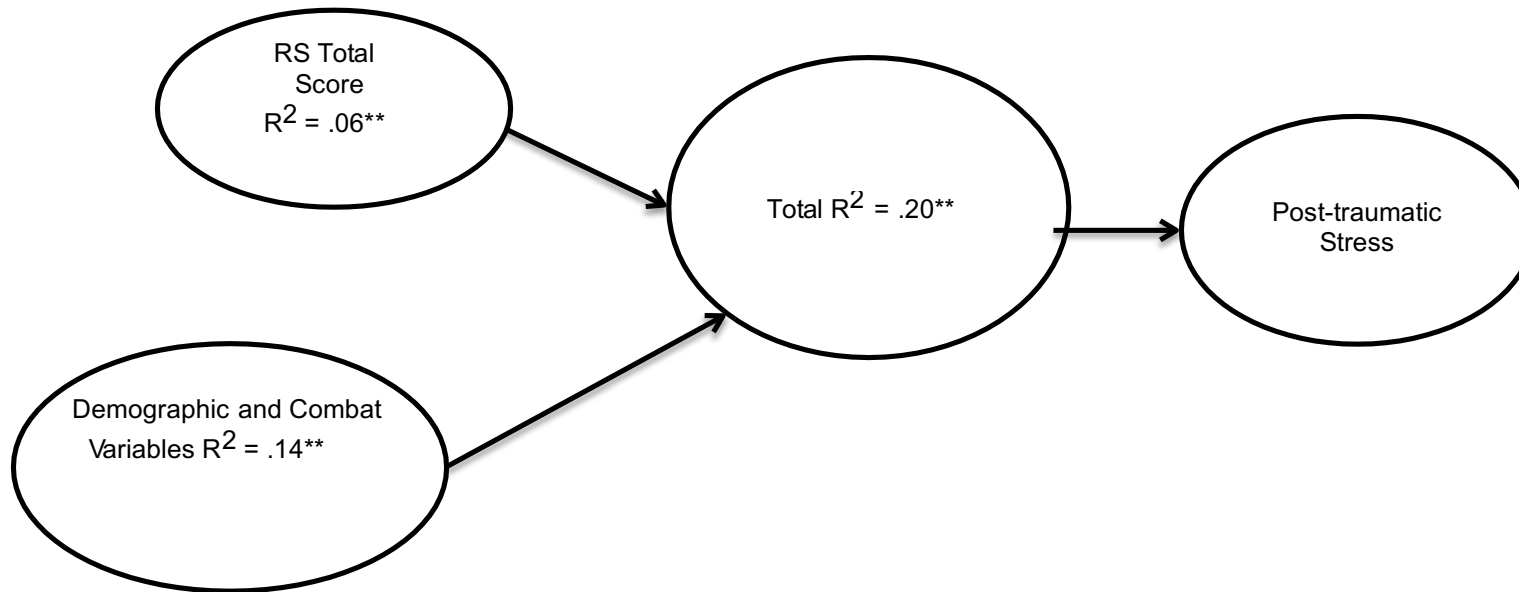
Table 5.
Sequential Regression of Demographic, Combat, and Military Relationship Variables on PTSD Symptoms

Variables	B	SE B	β
Age	2.57	.912**	.188
Rank	-2.41	1.22*	-.15
Years of Service	-.21	.17	-.09
Education	-1.20	.81	-.10
Hostile Fire	-5.24	3.00	-.139
Hazardous Duty	-5.88	3.22	-.14
Job (Combat/ Support)	-4.69	2.26*	-.12
Military Relationships Total Score	-.17	.04**	-.24
			$R^2 = .20$ Adjusted $R^2 = .18$ $R = .44$

Note. * = $p < .05$, ** = $p < .01$.

After step 2, with all IVs in the equation, $R^2 = .20$, $F(8, 269) = 8.43$, $p < .001$. The adjusted R^2 value of .18 indicates that 18% of the variability in PTSD symptoms is predicted by age, years of service, rank, education, combat related variables, and safety and security in military relationships. After step 1 with demographic and combat variables in the equation, $R^2 = .14$, $F(7, 270) = 6.46$, $p < .001$. After step 2, with military relationship score added to prediction of reported PTSD symptoms by demographic and combat variables, $R^2 = .20$, $F(1,269) = 19.22$, $p < .001$. The addition of Military Relationships Total Score to the equation with demographic and combat variables resulted in a significant increment in R^2 . This pattern of results suggests that 12% of the variability in PTSD symptoms is predicted by age, years of service, rank, education, combat related variables. Consistent with Hypothesis 3, the Military Relationships Total Score contributes modestly to that prediction. Figure 2 displays the relationship between the variables graphically.

Figure 2. Sequential Regression of Demographic, Combat and Military Relationship Variables on PTSD Score



Note. * = $p < .05$, ** = $p < .01$

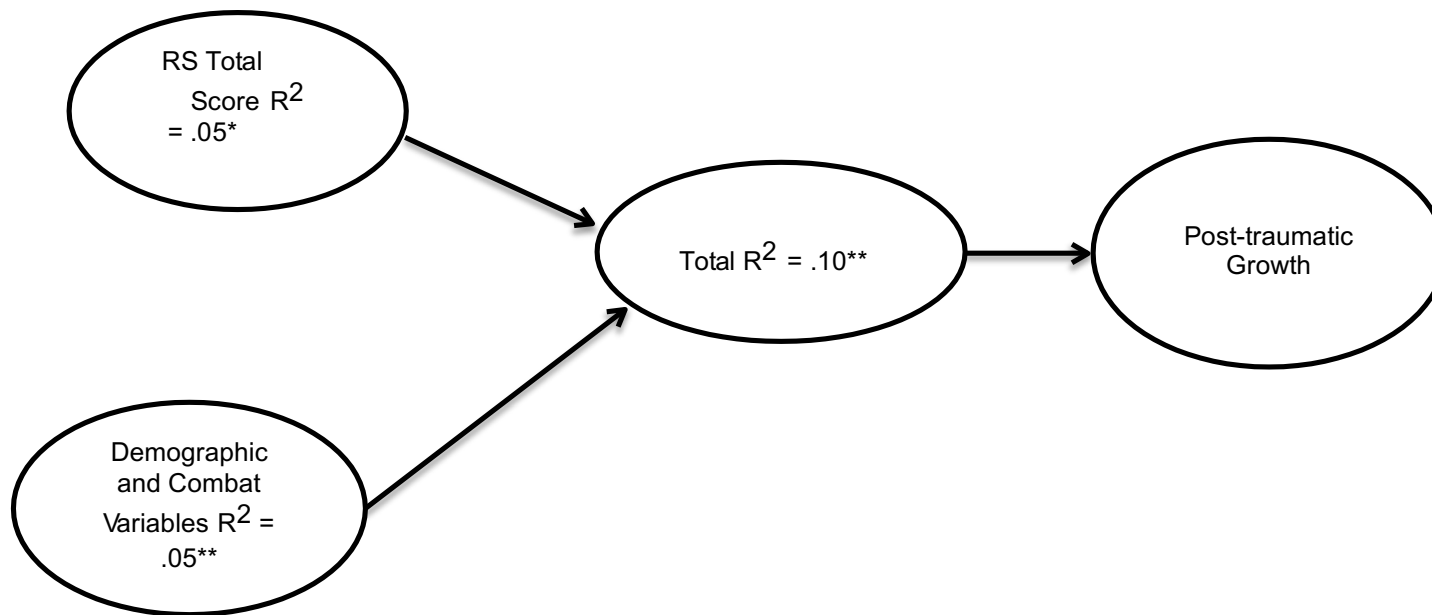
To assess the relationship between MRS total score and PTG score, controlling for demographic variables, the same hierarchical regression model was fit to the data with age, years of service, rank, education level and combat exposure as predictor variables in step 1 and MRS total score entered as a predictor variable in step 2. PTG total score was included in this model as the criterion variable. Table 6 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), and R , R^2 and adjusted R^2 after entry of all IVs. R was significantly different from zero at the end of each step. After step 2, with all IVs in the equation, $R^2 = .10$, $F(8, 269) = 3.89$, $p < .001$. The adjusted R^2 value of .08 indicates that 8% of the variability in PTG is predicted by age, years of service, rank, education, combat related variables, and safety and security in military relationships. After step 1 with demographic and combat variables in the equation, $R^2 = .05$, $F(7, 270) = 2.08$, $p < .05$ ($p = .046$). After step 2, with military relationship score added to prediction of reported PTG score by demographic and combat variables, $R^2 = .10$, $F(1, 269) = 15.78$, $p < .001$. Addition of military relationships total score to the equation with demographic and combat variables results in a significant increment in R^2 . This pattern of results suggests that 5% of the variability in PTG is predicted by age, years of service, rank, education, combat related variables. Consistent with Hypothesis 4, military relationship total score contributes modestly to that prediction. Figure 3 displays the relationship between the variables graphically.

Table 6.
*Sequential Regression of Demographic, Combat, and Military Relationship Variables on
 PTG Score*

Variables	B	SE B	β
Age	1.55	1.33	.08
Rank	-3.55	1.77*	-.16
Years of Service	-.25	.25	-.08
Education	3.41	1.19**	.21
Hostile Fire	5.23	4.3	
Hazardous Duty	-8.09	4.70	-.14
Job (Combat/ Support)	-3.34	3.30	-.06
Military Relationships Total Score	.23	.06**	.23
			$R^2 = .10$ Adjusted $R^2 = .08$ $R = .32$

Note. * = $p < .05$, ** = $p < .01$.

Figure 3. Sequential Regression of Demographic, Combat and Military Relationship Variables on PTG Score



Note. * = $p < .05$, ** = $p < .01$

To assess the relative influence of different types of military relationships on PTSD symptoms, controlling for demographic and combat variables, a hierarchical model was fit to the data. Age, years of service, rank, education level and combat related variables were entered into the model as predictor variables in step 1, MRS service member score entered as a predictor variable in step 2, MRS unit entered as a predictor variable in step 3, and MRS leader entered as a predictor variable in step 4. Table 7 displays the unstandardized regression coefficients (B) and intercept, the standardized regression coefficients (β), and R , R^2 and adjusted R^2 after entry of all IVs. R was significantly different from zero at the end of each step. After step 4, with all IVs in the equation, $R^2 = .22$, $F(10, 267) = 7.384$, $p < .001$. The adjusted R^2 value of .19 indicates that 19% of the variability in PTSD symptoms is predicted by age, years of service, rank,

Table 2.
Sequential Regression of Demographic, Combat, and Relationship With Fellow Service Member, Unit and Leader on PTSD Symptoms

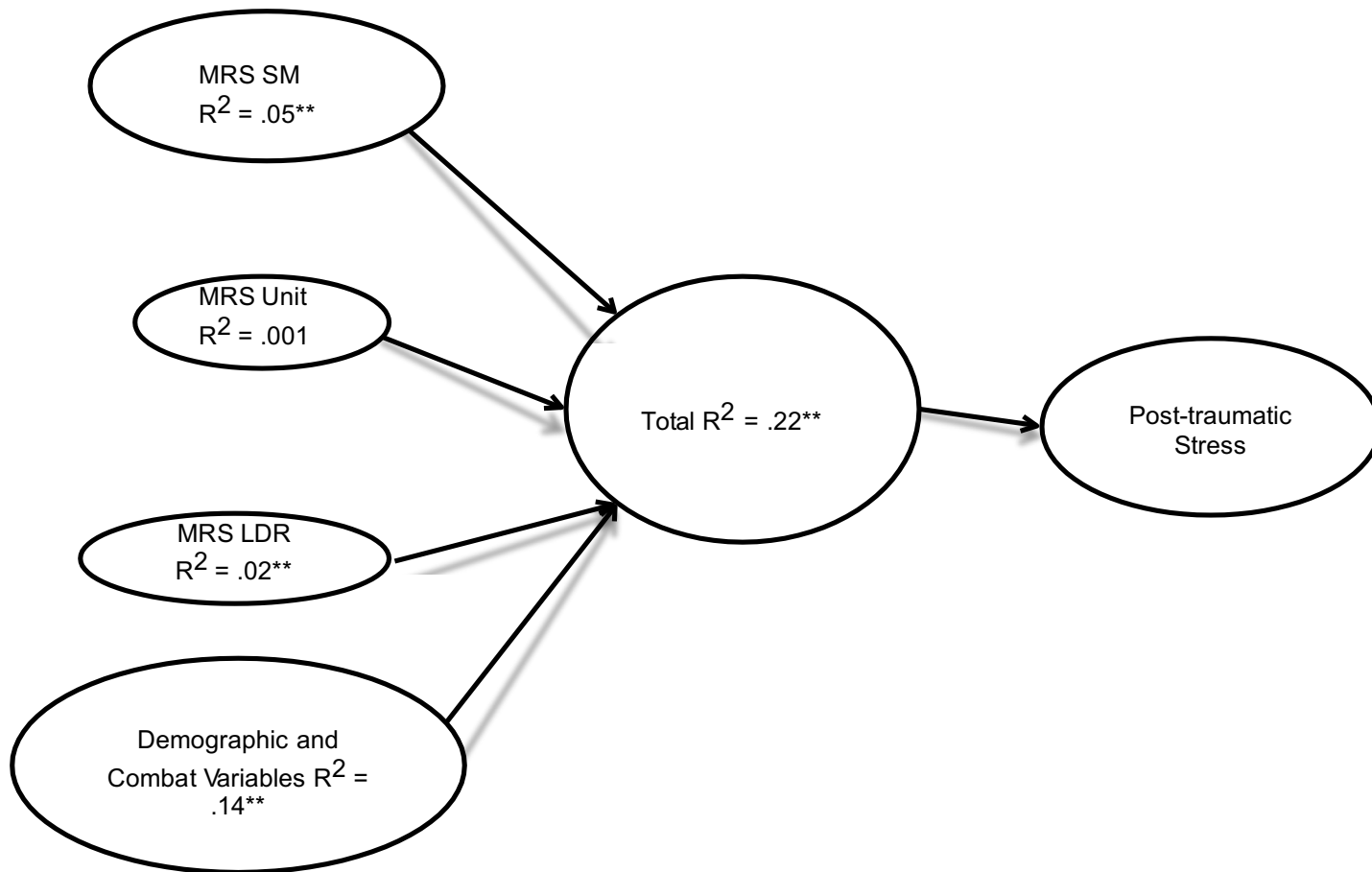
Variables	B	SE B	β
Age	2.11	.93*	.15
Rank	-2.60	1.21*	-.17
Years of Service	-.26	.17	-.11
Education	-.99	.81	-.08
Hostile Fire	-5.98	2.99*	-.16
Hazardous Duty	-5.50	3.21	-.13
Job (Combat/ Support)	-4.26	2.25	-.11
Relationship with Fellow Service Member	-.32	.14*	-.15
Relationship with Unit	.04	.09	.03
Relationship with Leader	-.28	.10**	-.19
			$R^2 = .22$ Adjusted $R^2 = .19$ $R = .47$

Note. * = $p < .05$, ** = $p < .01$.

education, combat related variables, and safety and security in relationship with service member, unit, and leader. As noted above, after step 1 with demographic and combat variables in the equation, $R^2 = .14$, $F(7, 270) = 6.46$, $p < .001$. After step 2, with relationship with fellow service member added to prediction of report PTSD symptoms

by demographic and combat variables, $R^2 = .19$, $F(1, 269) = 16.44$, $p < .001$. Addition of relationship with fellow service member score to the equation with demographic and combat variables results in a significant increment in R^2 . After step 3, with relationship with unit added to prediction of report of PTSD symptoms by demographic and combat variables and relationships with fellow service member, $R^2 = .19$, $F(1, 268) = 0.38$. Addition of relationship with unit, did not reliably improve R^2 . After step 4, with relationship with leader added to prediction of report of PTSD symptoms by demographic and combat variables, relationship with fellow service member, and relationship with unit, $R^2 = .22$, (adjusted $R^2 = .19$), $F(1, 267) = 7.77$, $p < .01$. Addition of relationship with leader score to the equation with demographic and combat variables, relationship with service member, and relationship with unit, results in a significant increment in R^2 . This pattern of results suggests that 14% of the variability in PTSD is predicted by age, years of service, rank, education, combat related variables. Military relationship with fellow service member and leader scores contribute modestly to that prediction; relationship with unit score, adds no further prediction. Figure 4 displays the relationship between the variables graphically.

Figure 4. Sequential Regression of Demographic, Combat and Relationship With Service Member, Unit, and Leader on PTSD Score



Note. * = $p < .05$, ** = $p < .01$

To assess the relative influence of different types of military relationships on PTG score, controlling for demographic and combat variables, a hierarchical model was fit to the data. Age, years of service, rank, education level and combat related variables were entered into the model as predictor variables in step 1, MRS service member score entered as a predictor variable in step 2, MRS unit entered as a predictor variable in step 3, and MRS leader entered as a predictor variable in step 4. Table 7 displays the unstandardized regression coefficients (B) and intercept, the standardized regression

Table 3.
Sequential Regression of Demographic, Combat, and Relationship with Fellow Service Member, Unit and Leader on PTG Score

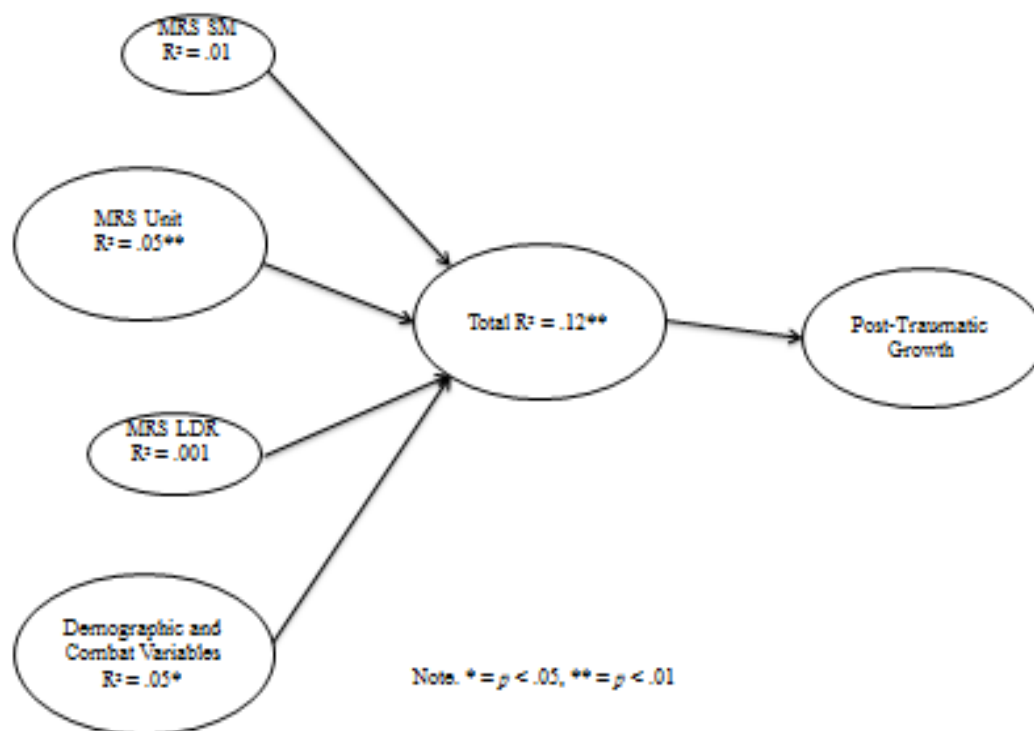
Variables	B	SE B	β
Age	.93	1.36	.050
Rank	-3.80	1.77*	-.18
Years of Service	-.31	.26	-.10
Education	3.70	1.19**	.23
Hostile Fire	4.24	4.38	.08
Hazardous Duty	-7.60	4.69	-.13
Job (Combat/ Support)	-2.77	3.30	-.05
Relationship with Fellow Service Member	.02	.20	.01
Relationship with Unit	.51	.15**	.25
Relationship with Leader	.10	.15	.05
			$R^2 = .12$ Adjusted $R^2 = .09$ $R = .35$

Note. * = $p < .05$, ** = $p < .01$.

coefficients (β), and R , R^2 and adjusted R^2 after entry of all IVs. R was significantly different from zero at the end of each step. After step 4, with all IVs in the equation, $R^2 = .12$, $F(10, 267) = 3.61$, $p < .001$. The adjusted R^2 value of .09 indicates that 9% of the

variability in PTG score is predicted by age, years of service, rank, education, combat related variables, and safety and security in relationship with fellow service member, unit, and leader. As noted above, after step 1 with demographic and combat variables in the equation, $R^2 = .05$, $F(7, 270) = 2.07$, $p < .05$ ($p = .046$). After step 2, with relationship with fellow service member added to prediction of report PTG score by demographic and combat variables, $R^2 = .06$, $F(1, 269) = 3.84$. Addition of relationship with fellow service member score to the equation with demographic and combat variables, did not reliably improve R^2 . After step 3, with relationship with unit added to prediction of report of PTG score by demographic and combat variables and relationships with fellow service member, $R^2 = .12$, $F(1, 268) = 16.17$, $p < .001$. Addition of relationship with unit to the equation with demographic and combat variables, and relationship with fellow service member, results in a significant increment in R^2 . After step 4, with relationship with leader added to prediction of report of PTG score by demographic and combat variables, relationship with fellow service member, and relationship with unit, $R^2 = .12$, (adjusted $R^2 = .09$), $F(1, 267) = .43$. Addition of relationship with leader score to the equation with demographic and combat variables, relationship with service member, and relationship with unit, did not reliably improve R^2 . This pattern of results suggests that 5% of the variability in PTG is predicted by age, years of service, rank, education, combat related variables. Military relationship with unit score contributes modestly to that prediction; relationship with fellow service member and leader scores, adds no further prediction. This suggests different pathways of military relationships predict PTG than PTSD. Figure 6 displays the relationship between these variables graphically.

Figure 5. Sequential Regression of Demographic, Combat and Relationship with Service Member, Unit and Leader on PTG Score



Qualitative Data Coding and Analysis

Qualitative data was examined with an inductive analysis approach and guided by a priori themes (see Wimmer, Vonk, & Reeves, 2010; Creswell, 2013). A priori coding is used when the researcher analyzes the data for pre-existing themes based on prior research or when seeking to apply a specific theory to a set of responses (i.e., attachment theory). An inductive approach is a systematic process for analyzing data guided by specific objectives. Contrary to methods used in experimental and hypothesis testing,

inductive analysis is free from the restraints imposed by structured methodologies. Instead, the purpose of this approach is for findings to emerge from frequent, dominant or significant themes inherent in raw data (Thomas, 2006). According to Thomas, the purposes of the general inductive approach are:

1. To condense extensive and varied raw text data into a brief, summary format.
2. To establish clear links between the research objectives and the summary findings derived from the raw data and to ensure these links are both transparent (able to be demonstrated to others) and defensible (justifiable given the objectives of the research).
3. To develop of model or theory about the underlying structure of experiences or processes which are evident in the text (raw data). (p. 2)

Traumatic event. First, the service members' responses to queries to briefly describe their traumatic event and whether were uploaded to an excel spreadsheet and coded by the primary researcher. A priori themes such as combat exposure, military sexual trauma (MST), and deployment in general, were taken from the research based on military trauma. Following an inductive analysis approach, additional themes that emerged were also noted and reported. As the text was read repeatedly the meanings of responses were compared to apriori and developing themes. Once no new major themes emerged coding was ceased. Out of 280 responses, 214 or seventy-six percent met threshold for coding. The remaining twenty-four percent didn't meet threshold either because no answer was given (it was left blank or participants wrote n/a), they gave a vague answer that was not possible to code, or they stated they were unwilling to disclose the event. Some of the responses met criteria for more than one type of trauma (i.e., they

reported being under fire, and losing a fellow service member). Such responses were coded as “combat exposure” and “dealing with death”. An example of a response that was coded as combat exposure is, *"On national election day in Afghanistan (2010) my unit experienced IDF and small arms fire. It was the first time I experienced action of that sort and was very stressful/troubling."* An example of a response that was coded as MST is *"I was sexually assaulted by a male service member whom I didn't know while deployed to Afghanistan."* An example of a response that was coded as deployment stress in general is, *"Deploying to Iraq as a reservist. Leaving behind family and job and deploying with a new "military" family and looking out for them. The entire process was somewhat of a "challenge".*

Exploring responses for evidence of coherence. Next, participants’ descriptions of their relationship with a fellow service member, a leader, and their unit were analyzed to generate a measure of “coherence of response.” Coherence was a term first used to code responses of parents to the Adult Attachment Interview (Main & Goldwyn, 1984). Parents’ responses were deemed coherent when they sounded “truthful, non-contradictory, fairly concise and yet sufficient and complete, easily addressing the interview topic and seldom speaking in confusing ways” (Main & Goldwyn, 1991). Main and Goldwyn found that speakers who were able to have a generally coherent, and cooperative conversation when asked about their early attachment-related experiences tended to have secure infants, whereas speakers who gave incoherent and confusing answers to questions tended to have insecure infants (1984). The current study drew on this construct and designed descriptive anchors to code the participant responses using dimensions of adjective-example agreement, degree of specificity and to discrete episode.

To analyze the responses for coherence a team of four coders reviewed the qualitative data entered into separate tabs on an Excel spreadsheet displaying the service members' description of each relationship. Coders met together and first determined if there was sufficient correspondence between the adjective and its description to permit coding. The responses for several service members did not meet threshold for coding and were not included in this study. Out of 279 participants, 96 (34 percent) for relationship with service member, 145 (52 percent) for relationship with unit, and 127 (46 percent) for relationship with leader did not meet threshold for coding. Reasons for this included, no adjective was provided, no description of the adjective was provided (or both), or the description didn't match the adjective. For example, one service member described his relationship with a leader as aggressive and explained his reason for choosing this adjective as "Standing up for what he believed in and in effect allowed me to gain confidence in myself and my decisions made at work." Although this description has some specificity, it was deemed unscorable because the description did not meet the first criteria of being a match with the adjective. The coding team then read the text of the survey responses and applied an initial five-point coding scale to identify the level of coherence for each description. To improve the utility of the coding, the original 5-point coding scale was modified to a seven-point scale with more descriptive information added for each rating. The final rating scale was "1", No episodic response/no evidence, no specificity/context; "2", No episodic-mild specificity or mild evidence; "3", No episodic-mild specificity and mild evidence; "4", No episodic-moderate evidence or moderate specificity (action and setting presented); "5", Episodic-with mild evidence (high specificity or episodic with mild evidence - is inherent); "6", Episodic-with

moderate evidence; “7”, Episodic with strong, clear evidence (broad and vague descriptions). This coding development team applied the revised coding scale to several participants until there were responses that met each rating level. Subsequently, the revised scale was applied to the remainder of responses. Service members who averaged a score of four or better were considered secure in their relationships with their identified peer, leader, or unit.

Since this is an interpretive process, two experts trained the coders in using the coding guide and periodically participated in the coding sessions and discussions. Experts also reviewed the coders’ initial coding of several response sets to ensure agreement. If there was a disagreement, the group discussed the dimensions to achieve consensus. When coders reported a sufficient level of inter rater reliability, coding of the complete data set commenced by two of the initial team members. The number of items were totaled and divided between the two coders. The coders worked together coding 366 (27%) of the items. To prevent drift coders began coding 10-15 percent of each data set together then coded another 30 percent individually, returned to coding the next 10-15 percent together and completed each set individually.

The following are examples of responses that were coded one through seven on the coherence scale for a relationship with another service member. An example of “7” for the adjective “supportive” is, “When I was being challenged by a politically motivated slander campaign by a member of the US State Department, my friend stood in the social "line of fire" to defend me when the easiest path was to stand aside and let things unfold as they were. His integrity and personal strength was there for me when I needed it.” An example of a “6” for the adjective “mutually beneficial” is, “I was

meritoriously promoted to corporal because of Lt *Joe's* (pseudonym) leadership and influence. I was selected earlier than a lot of my peers, at a time when I had no formal schooling or any other qualifications the Marine Corps cares about. Because of my success as a squad leader in Lt *Joe's* platoon, Lt *Joe's* was very highly thought of by the battalion chain of command. When an incident happened in a different company of our battalion while on my second deployment, Lt *Joe's* was transferred from commanding a rifle platoon, to essentially commanding a company.” An example of a “5” for the adjective “supportive” is “All members of the unit cared about me and my welfare. When my wife faced an illness, they were there to help us through the crisis.” An example of a “4” for the adjective “fun” is, “We always had a good time together. We had the same sense of humor and we were able to turn shitty situations into good ones (or at least bearable).” An example of a “3” for the adjective “inspirational” is, “made me strive to be a better NCO and Flight Medic.” An example of a “2” for the adjective “sharing” is, “He could have anything of mine that he needed, I could have anything of his if I needed it.” Finally, an example of a “1” for the adjective “funny” is, “Never a dull moment, deployed or at home.”

Evidence for safe haven experiences and support for exploration. Responses that described service members’ relationship with a fellow service member were examined for evidence of a priori attachment themes of security and exploration. Safe haven experiences referred to evidence of attention to emotional needs such as providing protection, soothing, co-regulation, acceptance of emotions, and or delighting in the respondent’s internal affective experiences. Additionally, descriptions that showed themes of trust, support, and the ability to confide in the other were coded as including

safe haven experiences. Support for exploration responses were to show evidence of attention to emotional needs such as helping the respondent to learn and try new things, enjoying being with, and delighting in the accomplishments of the respondent. In this sample, relationships that exhibited evidence for support for exploration, typically involved support (in relation to doing the job or completing the military mission) and partnership around tasks. A 4-point rating scale was collaboratively developed by the experts and the coder as “0” for “not scorable”, “1” for “safe haven experiences are lacking/not evident”, “2” for “some evidence for safe haven experiences, but it is minimal”, and “3” for “sufficient evidence for safe haven experiences.”

The coder’s initial ratings for sixteen respondents were reviewed with an expert as a measure of the reliability of the coding scheme. Of the 32 ratings reviewed, there were different numbers (all within one point of each other) on 3 ratings. This resulted in over 90% agreement in assigning a rating for Safe Haven or Support for Exploration, indicating a sufficient level of correspondence. The discrepant responses and ratings were discussed to achieve consensus. Of 276 possible responses for safe haven experiences and support for exploration, 91 received a “0” of “not scorable,” because no description was provided. Thus, 67 percent of the responses for safe haven and for support for exploration received a rating of “1”, “2”, or “3”.

Evidence of resilience and post-traumatic growth. The responses to questions about coping were coded for a priori themes of resilience and PTG. Studies on the process of resilience have consistently identified four general factors that promote successful resolution of crises, social support, making meaning, managing emotions, and successful coping strategies (Echterling & Stewart, 2010). Additionally, the PTG

literature has identified spiritual change, as a pathway to growth in the aftermath of a trauma.

Service members' responses to the question, "*How did you cope with your most difficult crisis or challenge related to military service as a service member?*" and "*What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?*", were uploaded to an excel spreadsheet in separate columns. For the purposes of this study, dimensions of resilience and post traumatic growth were rated based on the following descriptions. Social support referred to reaching out to others, receiving support from others, sharing stories with others, and checking in on others' well-being. Making meaning was described as evidence the service member was making sense of the crisis or threat in a way that allowed them to feel more self-confident, having a deeper appreciation for life, fashioning closer relationships, or reporting greater wisdom. This is the dimension that corresponds strongly with descriptions and definitions of PTG. Regulation of emotions was understood as actively noting one's own emotional state and attempting to regulate their affect and/or experiences via a full range of emotions. For example, the service member may report feeling fear and shock but also report feeling more resolve, courage, compassion, hope, peace, and joy. Coping referred to coping adaptively in the moment and/or was able to envision new possibilities by creating positive goals or activities. For example, the service member may begin to see a future, gain a sense of direction and hope, become more motivated, and increase their momentum towards resolution and dealing with challenges. Spiritual growth referred to evidence the service member noted a change in their experience in a spiritual or religious realm.

For each of these dimensions a four-point rating scale was used where “1” meant “negative valence or expression of resilience dimension (negative coping or emotion or meaning making or reaching out).” A score of “2” was assigned for “dimension not observed”, “3” indicated “not certain whether dimension was observed and “4” meant “dimension definitely observed.” The need for a category to capture negative expressions of the dimensions was not anticipated, and became evident after the first 40 responses were rated. The coding levels were revised and all responses were re-coded using the revised scheme.

Emergent themes. Creswell (2013) suggests that when using a-priori coding one should also be open to other themes or patterns in the data and capture the information. Indeed this occurred when coding the dimensions of resilience, an unexpected variation of the dimension quickly emerged, that of a negative application of the factor. For example, a number of participants responded “used alcohol” to describe how they coped with the trauma experienced. The coding scheme was modified to be able to collect this phenomena across all the dimensions of resilience.

Qualitative Results

Traumatic Event Report. Several qualitative questions were designed to gather information about military-related stress. For example, respondents were asked to write “*the most difficult crisis or challenge you faced related to your military service (the one that had the most impact on you).*” The traumatic experiences that were endorsed by ten or more participants (six experiences total) and those that are identified as important in the literature (three experiences) are reported here. The top traumatic experience, described by 56 or 26 percent of service members was combat exposure. Most of these

(40) described an incident where they were being fired upon or attacked directly, either by gunfire, mortar attacks, or an IED. Eight of the 56 participants described an incident where they were both fired upon and returned fire, two fired upon the enemy without being fired upon, two described indirect fire, and four described combat exposure in general without specifying the exact nature.

The second most endorsed traumatic experience, named by 42 or 20 percent of service members dealt with death. Twenty-six of these indicated their most stressful experience involved hearing about (usually while deployed alongside) or witnessing the death of a close service member. Ten of the 42 described an incident where they felt some responsibility for the death, or potential death of a fellow service member. For example, one commander noted “My time as a commander was the most stressful in my career. For three years, one of those deployed to OEF, it was critical I do everything right, not just for my sake, but for the lives of my troops.” Three described an incident where they killed “the enemy” and three described an incident where they witnessed the death of an innocent civilian.

“Poor leadership” was described by 28 or 13 percent of service members and was the third most endorsed traumatic experience. Most of these (19) described an incident they perceived as clearly toxic, such as “Being falsely prosecuted for an [Article] 15 just to be a fall guy for [an] O-5. I have been blown up shot at, and this has had the most impact on me. Lost hope in the leaders”. Another service member reported, “Being out to blame on petty easily fixed problems. Constantly being reminded of failures. Yelling when it is not necessary. Demeaning me. Belittling me just cause [*sic*] I am [a] lesbian”.

The remaining eleven service members described incidents where leadership could possibly be characterized as toxic, but definitely as neglectful or unsupportive.

The fourth most traumatic experience was coded as “responding to casualties” and was described by 21 or 10 percent of service members. Service members described incidents where they, either as medics, medical personnel, or a fellow service member performing “buddy aid”, had to respond to a life threatening situation. These service members described incidents where the service member(s) they were treating died, were seriously injured or both. For instance, one service member related, “I was a radiology technologist and have nightmares concerning the injured service men and women that I helped. There is no specific [incident], they just all add up.”

Fifth, 16 or seven percent of service members described an incident of military sexual trauma. Twelve of these were incidents that could definitely be described as sexual assault such as, “I was raped by three guys...three sailors”. The remaining four responses were characterized as sexual harassment such as, “Long-term (3 years) sexual harassment from commander”.

Finally, the sixth most described traumatic experience was deployment in general and was endorsed by twelve or six percent service members. Many of the service members who identified this as their most stressful military related experience, described multiple deployments, working long hours, being separated from family and losing a sense of purpose while deployed.

Three additional incidents that were not endorsed by ten or more service members were reintegration (either post-deployment or post-separation/ -retirement, endorsed by

eight), suicide of a close service member (endorsed by seven), and persecution within the military (described hazing, emotional abuse, or shaming, endorsed by five).

Interestingly, several of the top five responses (death of a close service member, poor leadership, responding to casualties, and MST) involve relationships within the military and further confirm and clarify the quantitative finding that, attachment security and psychological safety in military relationships can predict posttraumatic stress and PTG, above and beyond factors known to be associated with these outcomes (such as combat exposure). Furthermore, the finding that poor leadership was the third most endorsed stressful experience by service members, further supports and explains the finding that relationship with leader was an important variable when predicting PTSD. (See Appendix D for a full list of experiences)

Location of event. In terms of where the event took place, 109 service members, or 51 percent indicated their event occurred while deployed. Forty-eight of these indicated it took place in Afghanistan, forty-six in Iraq, and three in Vietnam. Moreover, Qatar, Kuwait, and Guantanamo Bay were each endorsed by two service members and Kosovo, Bahrain, and Saudia Arabia were each endorsed by one service member. Finally, service members reported their traumatic experience took place across “multiple deployments.” Of the 214 service members who reported a traumatic event, 44 or 21 percent indicated it took place in the US and were coded as “in garrison”. The remaining service members either reported it took place overseas (i.e., South Korea, Germany, Thailand) or they did not report where it took place. Thus, service members’ most stressful military experience occurred across diverse locations and a substantial number of service members reported it did not occur while deployed to a combat zone.

Time. Service members reported, on average their traumatic experience happened approximately four years ago. More than half (62 percent) reported going through their traumatic experience five or more years ago, and 78 (33 percent) reported it happened more than ten years ago. Twelve (five percent) reported the experience occurred less than one year ago. Furthermore, 169 or 66 percent of service members reported they had not experienced an event outside of military service as difficult or nearly as difficult as their most stressful military experience. This means their most stressful military experience was the most stressful event they have been through in their lifetime. However, the remaining 34 percent indicated they had experienced an event as difficult or nearly as difficult as their most stressful military experience. Twenty-four or nine percent stated they experienced such an event before joining the military. Sixty or 23 percent indicated they experienced an event after joining, but not related to military service. Six or two percent of service members reported experiencing something as or nearly as stressful both before and after joining the military.

Evidence of post-traumatic stress symptoms and/or post-traumatic growth.

Regarding the changes service members reported others have seen in them since their traumatic event, 101 service members indicated no one has mentioned seeing any changes. Of the remaining 176, 70 (or 40 percent) of service members described changes congruent with post-traumatic stress symptoms, though not necessarily meeting full criteria for diagnosis. Forty-four of these endorsed symptoms of avoidance, 43 endorsed symptoms of arousal, 21 described symptoms of depression, and 9 reported symptoms of re-experiencing. Of these, the responses of 22 service members showed evidence of two post-traumatic stress symptoms, eight showed evidence of three symptoms, and two

showed evidence of all four symptoms. Post-traumatic stress symptoms were not observed in the responses of 34 of service members, and the coder was “not certain” whether post-traumatic stress symptoms were present in 51 of service members. The remaining 21 service members did not give a response as to what changes others have seen in them. Regarding PTG, 28 out of 176 or 16 percent of service members described changes that showed evidence of PTG. Of these, 15 described changes that showed evidence of personal strength, nine described positive changes in relating to others, six described changes in appreciation for life, four described a spiritual change, and two described new possibilities. Of these, the responses of seven service members showed evidence of two dimensions of PTG.

Attachment security. The Military Attachment Scale (MAS) asked service members to provide three adjectives that “*tell about your relationship*” with the service member, unit, and leader they felt close to and to provide an incident or memory that describes what they mean by the adjective. These responses were coded for *a priori* themes of attachment, namely for coherence of text and for evidence of safe haven experiences and support for exploration.

Coherence. As defined in the coding guide (Appendix C) a coherent response is a truthful, non-contradictory, somewhat concise and sufficiently relevant response. Based on Main & Goldwyn’s (1984) research, the more coherent a response, the more secure the individual giving the response. Responses were given a coherence score based on the rating scale explained above and scores were averaged across all relationships for each service member as well as individually for each relationship (with service member, unit, and leader) in Table 8. Overall, there was evidence for coherence in the responses of

service members. Using a score of four as a cutoff for attachment security, across all relationships, 65 service members or 39 percent can be classified as “secure”. For relationship with service member, 77 service members or 46 percent can be classified as “secure”, while 52 or 39 percent can be classified as “secure” in their relationship with their unit, and 57 or 34 percent as “secure” in their relationship with a leader. Note, a similar pattern as was found in the quantitative data, with relationship with service member slightly higher on coherence than relationship with leader, which was higher than relationship with unit.

Table 8.
Mean, Standard Deviation, Mode Minimum, and Maximum Coherence Scores Across all Military Relationships and Individually for Relationship with Service Member, Unit, and Leader

Variables	Total	Relationship (SM)	Relationship (Unit)	Relationship (LDR)
<i>M</i>	3.55	3.77	3.42	3.55
<i>SD</i>	0.94	1.15	1.10	0.92
Mode	3.33	2.67	4.00	3.00
Min	1.00	1.33	1.00	1.00
Max	7.00	7.00	7.00	6.33

Analysis of adjectives. Overall, the top adjective used by service members to describe their relationship with service member, leader and unit was “loyal” and various synonyms such as “faithful”, “true”, “dependable”, “reliable” (used 83 times across relationships). The next most used adjective was “supportive” or words similar in meaning such as “helpful” (used 54 times across relationships). A close third most used

adjective was the word “caring” and similar words like “compassionate”, “kind”, “loving”, and “thoughtful” (used 53 times). “Friend” and synonyms such as “comrade”, “buddy”, “ally”, and “confidant” were used 43 times; “trust” and “trustworthy” were used 41 times; “honest” and “truthful” were used 31 times; “fun”, “exciting”, “energetic” and “lively” were used 30 times; “brother”, “brotherhood”, and “fraternal” were used 28 times, and “friendly” and “sociable” were used 17 times.

An unexpected, yet consistent finding was that negative adjectives were used by service members to describe their relationship with a service member, leader, and unit. Across all three types of relationships, service members used 58 different negative words. The most frequently cited negative adjective used by service members to describe their relationship with a fellow service member, leader, and unit was “untrustworthy” and synonyms such as “dishonest”, “fake”, “mistrustful”, and “disloyal” (used 23 times). The second most frequently cited negative adjective used was “hostile” or words similar in meaning such as “cruel”, “spiteful”, “hateful”, and “violent” (14 times). Next, “selfish”, “self-centered”, or “self-absorbed” was used 12 times. To describe their relationship with a unit and a leader, service members used “uncaring”, “uncompassionate”, and “unsupportive” 9 times. Finally, service members used “incompetent” or “clueless” to describe their relationship with a unit and leader six times. For the full list of adjectives used across relationships see Appendix C.

Overall, these adjectives provide some specific explanatory context for the quantitative finding that the MRS predicts PTSD and PTG with a positive relationship between higher MRS scores and PTG and a negative relationship between higher MRS scores and PTSD. A more in depth analysis of these shows how these adjectives describe

qualities that would make a fellow service member, unit, and leader more or less likely to act as a safe haven or secure base, thus influencing the likelihood they would experience PTSD and PTG.

Service members also indicated whether the fellow service member, unit, and leader they identified as someone they felt close helped them cope in the aftermath of their most stressful military experience. One hundred twenty-two service members (43 percent) reported the fellow service member they felt close to was someone who helped them cope in the aftermath of their most stressful experience. One hundred one (36 percent) answered no to this question and 58 (21 percent) gave no answer. Fifty-three (19 percent) service members reported the unit they most identified with was a unit that helped them cope in the aftermath of their most stressful experience. One hundred twenty-three (44 percent) answered no to this question and 105 did not give an answer (37 percent). Finally, 61 service members (22 percent) reported the leader they felt close to was someone who helped them cope in the aftermath of their trauma. One hundred thirty-five (48 percent) answered no to this question and 85 didn't give an answer (31 percent).

Overall, the highest percentage of service members across relationships indicated that the fellow service member they identified was someone who helped them cope in the aftermath of their most stressful military experience. This helps to explain the quantitative finding that on average service members reported a higher level of safety and security in their relationship with a fellow service member than in their relationship with a unit and a leader.

Relationship with fellow service member. Slightly different clusters of adjectives emerged as the most frequent for relationship with service member, unit and leader respectively (please see Appendix D for the full list of words used for each relationship). To describe their relationship with a fellow service member to whom they felt close to, 183 service members used 164 different adjectives. Twenty-two of these words were potentially negative (like annoying, shallow, and frustrating), and 11 of them were clearly negative (such as selfish, violent, and hurtful. First, the word “loyal” (along with synonyms mentioned above) was used by 55 service members (30 percent) to describe their relationship with a fellow service member they felt close to. A representative example of coherent descriptions of an incident or memory that illustrates what service members meant by “loyal” is, “Hazing is a common occurrence in the Marine Corps and is often used to punish people for their transgressions. As a boot (a junior marine that hadn't been deployed), I was hazed on several occasions for my mistakes. Without fail, my friend would support me during these moments by choosing to be hazed himself.” “Caring” was used by 33 or 18 percent of service members to describe their relationship with a fellow service member. A coherent response that illustrates what a service member meant by “caring” is, “While on our first deployment, I was a team leader and my friend was an automatic rifleman in a different team. Our patrol hit an IED while we were set into a 360 defense. After the IED strike, there was smoke everywhere and my comm [*sic*] with my squad leader and the other team leader on patrol was knocked out by the blast. I sprinted across the IED laden field to ensure my friend, and the rest of the squad weren't casualties and I set them into new positions to allow us to fight off ambush if necessary.” “Friend” was used by 31 or 18 percent of service members. A response

that illustrates this adjective is, "We are friends, for life, it's not something that can be explained. We went to war together, we got drunk together, I stood for him at his wedding, he was there for both of my divorces. I crashed at his place, he crashed at mine! We dealt with post war issues together." "Trustworthy" was used by 30 or 16 percent of service members and an illustrative response is, "This service member was the only one I told about my need, according to my job duties, to report the ethical incident to the Battalion Commander. I knew I could trust him not to inform those I was reporting on that I was going to report it, or that it was me who did the reporting."

"Brother" was used by 22 or 12 percent of service members. An example that illustrates this adjective is, "Even as insane as he was, most of the time, [Billy] (pseudonym) was a protector. After someone tried to throw a fist at me, [Billy] picked him up, with one hand, shoved him against the wall and scarily, calmly, informed him that if he tried anything like that again, his life would be forfeit. At the time, it made me feel like what we were doing, was intervening the way a family might, to correct unacceptable behavior. Now, many years later, I realize how invasive, and troubling such behavior was. But it doesn't remove the feeling of kinship that I felt with my fellow marines." "Funny" was the next most used adjective, with 23 or 13 percent of service members using this adjective. An illustrative example of this is, "We have shared many laughs over the years. From the times we would throw small get togethers [*sic*], to the times on deployment where a simple phrase would cheer us both up. On deployment, every day at the same time they would show "Back to the future." Every morning at the same time I would be upstairs getting chow. I would sit in the same spot to watch TV and every morning I would sit down to the part of the movie where Doc Brown would scream

"1.21 Gw?!" and like clockwork he would pop out from somewhere and yell it at the same time with a mop in hand. Other people would be confused while I laughed hysterically, nearly choking on my FDA grade Z sausage patty." Finally, "supportive" was used by 19 or 10 percent of service members to describe their relationship with a fellow service member. A representative example of coherent descriptions of an incident or memory that illustrates what service members meant by "supportive" is, "When we were being attacked mlby [sic] rockets the person was by my side to make sure I was OK [sic] even though others had died. They were very supportive afterwards."

These findings provide specific examples of the types of interactions service members found important and, seemingly were protective, in producing the negative relationship between attachment security in relationship with service member and evidence of PTSD symptoms. Overall, service members appear to view a service member they felt close to as loyal, caring, a friend, trustworthy, a brother, funny, and supportive, as qualities that can be seen as facilitating the development of attachment security and safety in military relationships. They provide concrete examples of the kind and quality of interactions that may foster security in military relationships and help prevent or decrease the intensity of PTSD.

Relationship with leader. To describe their relationship with a leader whom they felt close to, 152 service members used 155 different adjectives. 22 of these words were potentially negative (like annoying, distant, and incompetent), and 28 of them were clearly negative (such as uncaring, dishonest, hateful). The top used adjective service members used to describe their relationship with a leader they felt close to, used by 21 or 14 percent of service members was "supportive". An example of what service members

meant by this adjective is, “Not only did he provide me with opportunities, he supported me through that process. He helped me learn and gave me the tools I needed. He spoke up to the next level of leadership and always talked me up. He helped create opportunities for leadership and eventually awards all to support my growth and advancement.” “Respectful”, was used by 16 or 11 percent of service members. An example of what service members meant by “respectful” is, “Even know [sic] this guy was a Captain he gave all of us respect. I remember on a Christmas morning he came to the barracks and wished us all a Merry Christmas and asked if we needed anything.....this meant a lot being so far from home (Germany).” “Caring” was also used by 16 or 11 percent of service members and an example of what service members meant by this was, “CG [sic] even after retirement attended my chain of command ceremony or sent [a] letter of appreciation if [he] could not attend to show he cared.” Fifteen or 10 percent of service members used “honest” to describe their relationship with the leader. An example of an incident that illustrated this adjective was, “I can recall a mission. The route to Abu gharab [sic] was under fire (black) and the supply convoys would not drive it. We had soldiers from our unit there. Running out of water and generator fuel the 1SG [sic] took volunteers to drive the black route and resupply our guys. He made it clear that we could get in trouble for the unauthorized mission and that the odds of attack were very high. He never sugarcoated it and we all went because of that.” Finally, “fair” was also used by 15 or 10 percent of service members. An example of what was meant by this was, “Some leaders are toxic. Hazing was prevalent, [sic] this led to constant confusion and lackluster performance. In this specific leaders case I never wondered why I was

being reprimanded. In some cases he would even give a 5 minute talk about why he thought mass punishment in said scenario was the best option.”

These findings provide context for the quantitative finding that there is a negative relationship between security in relationship with leader and PTSD symptoms. Overall, service members appear to view leaders they felt close to as supportive, respectful, caring, honest, and fair all qualities that can be seen as intrinsically facilitating the development of attachment security and safety in military relationships. They provide concrete examples of the kind and quality of interactions that may foster security in military relationships and help prevent or decrease the intensity of PTSD.

Relationship with unit. Regarding their relationship with the unit they most identified with, 134 service members used 190 different adjectives to describe this relationship. One hundred and twenty-two of these were classified as positive, while 49 were classified as potentially negative (like lazy, naïve, and political) and 18 as clearly negative (such as harsh, uncaring, untrustworthy). In describing their relationship with the unit they most identified with, service members used “family” most frequently (used by 15 or 11 percent of service members). A representative example of coherent descriptions of an incident or memory that illustrates what service members meant by “family” is “We have all been through hardships both in the Marine Corps and out of it. But we stay close. Whenever someone is going through some shit, the rest of us are right there to help shoulder the burden.” “Loyal” was the next most used adjective that service members used to describe their relationship with their unit (14 or 10 percent). An example of an incident that somewhat coherently illustrates this adjective is, “We are still loyal to each other. I keep in contact with the majority of my fellow Romads (JTACs).

We have annual reunions, we have the TACP Association, which has raised over 2 million dollars over the past 10 years and dispensed it all. We pay for plane tickets for emergencies, [*sic*] we support the families of our falle]n warriors. Example, we bought the 16 year old daughter of one of our fallen a brand new car. We sponsor scholarships and trips for the kids. All because we are loyal, [*sic*] to each other, for life!” “Fun” was also used by 14 or 10 percent of service members and an example of an incident that describes this adjective is, “Some of my fondest memories is [*sic*] Thunder Dome. This is where we would raid other shops in grappling style and playfully wrestle people from other squads. There was no hate or malice behind anything. It was all in good sport and fun. It was a respect thing. At the end we would all laugh it off and walk away to do our jobs. No one ever went in to intentionally hurt anyone...” Fourteen or ten percent of service members used “supportive” to describe their relationship with the unit they most identified with. An incident that illustrates what a service member meant when using this adjective is, “The unit would always be checking in with the NCO's to ensure the welfare of their soldiers were being cared for. When one member of the unit passed away, there was [*sic*] many opportunities to grieve and seek counseling.” Finally, “untrustworthy” was used to describe their relationship with their unit by 13 or 10 percent of service members. An example of what a service member meant by this adjective in describing a leader is, “I was told that if I went for help in coping with my problems that it would not be held against me. The same day I first went to the mental health clinic they revoke [*sic*] my security clearance, canceled my orders to PCS [*sic*], removed me from my primary job, and made it so I would have to go through a series of reviews prior to being able to reenlist.”

These qualitative findings help provide context for the quantitative finding that there is a positive relationship between security in relationship with unit and PTG. Overall, service members view the unit they most identified with as family, loyal, fun, supportive and untrustworthy. These adjectives along with the examples used to describe their meaning all point to qualities and experiences that would have an impact on a service members feeling of attachment safety and security in their relationship with their unit. They provide concrete examples of the kind and quality of interactions that may foster or diminish PTG.

Examples of negative adjectives. Different patterns emerged across relationships assessed in terms of negative adjectives cited by service members. For example, the fewest number of negative adjectives were used (15) by service members to describe their relationship with a fellow service member. On the other hand when describing their relationship with a unit and a leader, service members used negative adjectives 50 times and 46 times respectively. As mentioned above, “untrustworthy” was used 23 times by service members to describe their relationships with a fellow service member, leader, and unit. A coherent example of what a service member meant by this in describing his relationship with a leader was, “When the Chief in charge concurred with a report that he knew to be a misrepresentation of my service, I found him to be deceptive.”

“Hostile” was used 14 times in describing a relationship with a unit. An example of the description of “hostile” is the, “...commander forced me to take a physical training test with a torn ligament and other severed tissue is my ankle. He wanted his numbers to be good and to have a reason to get rid of me. I asked the first sergeant at the time for help and he suggested I take it so that the commander might leave me alone. This was

the wrong answer and I had no recourse in any of this... I took the test and even with severed tissue passed the test. I didn't walk for 2-3 days without help. He is one of two military leaders that if I was to meet him again someday I would likely assault him. The injury that was exacerbated by his 'attention' is the one that was the straw that broke the camel's back. I have other injuries but this was the one that caused an evaluation of my capabilities because of my inability to run. This single man ended my military career because he cared more about his numbers and stats for his OER [sic] than he did about a hardworking sergeant in his unit.”

“Selfish” was used 12 times by service members across relationships. An example of what a service member meant by this in describing their relationship with a unit was, “The unit was always looking out for itself and the Army. Soldiers didn't matter. Families didn't matter. When I first arrived at the unit, I had just gotten married and had to move out of the barracks. I was given 3 days after receiving my first bah [sic] check, and when I tried to get a small loan to pay for a deposit on an apartment my acting 1SG [sic] wouldn't sign off on it, claiming I couldn't pay it back (it was an AER [sic] loan, and finance will not approve it unless you would be able to pay it back.) He forced me to move into a trailer park 20 miles from post, paying 275 dollars more than I would have for the apartment 3 miles from post because the trailer park didn't charge for a deposit or first month's rent.”

“Uncaring” was used nine times by service members to describe their relationship with a unit and leader. An example of what a service member meant by this in describing their relationship with a leader was, “I did not really get along with any of my [leaders]. I was going through a bad depression and was told by them all I was faking it. I ended up

attempting suicide.” Finally, service members used “incompetent” to describe their relationship with a unit and leader 6 times. An example of what a service member meant by this in describing their relationship with a unit was, “‘Ignorance is bliss.’ Knowing some of these guys could not accurately fire their assigned weapons was totally incompetence [*sic*] at its highest. The Navy was training Combat Seabees. However due to the need to fill billets in Vietnam they would run them through so fast some guys did not know how to load an [*sic*] M60. These weapons were the strength of our security for our camp. These guys would stand watch with the M60. Some of them could not strip their M16 without help.”

These findings provide additional information for the quantitative finding that military relationships predict PTSD and PTG above and beyond demographic and combat related variables known to be predictive of these outcomes. When service members saw a fellow service member, unit, or leader they felt close to in negative terms service members appear to view these relationships as hostile, untrustworthy, selfish, uncaring, and incompetent. It is not difficult to see how these negative qualities and the incidents used to describe these qualities may inhibit the development of attachment security and safety in military relationships and in turn increase the risk of PTSD and decrease the likelihood of PTG.

Evidence of safe haven experiences and support for exploration. The same responses to the MAS that were coded for coherence in relationship with fellow service member were also coded for evidence of safe haven experiences and support for exploration, viz., three adjectives and their corresponding descriptions. As mentioned above, the following 4-point rating scale was used: “0” for “not scorable”, “1” for “safe

haven experiences are lacking/not evident”, “2” for “some evidence for safe haven experiences, but it is minimal”, and “3” for “sufficient evidence for safe haven experiences.”

Safe haven. Safe haven refers to evidence of attention to emotional needs such as providing protection, soothing, co-regulation, acceptance of emotions, and or delighting in the respondent’s internal affective experiences. Additionally, descriptions that showed themes of trust, support, and the ability to confide in the other were coded as including safe haven experiences. Overall, 115 or 52 percent of service members gave descriptions of their relationship with a fellow service member in which there was at least some evidence for safe haven experiences even if it was minimal. Of these 115 service members, 33 or 18 percent gave descriptions where there was sufficient evidence for safe haven experiences. Some examples of this are in describing a fellow service member a respondent used the adjectives “loyal”, “protective”, and “kind” and stated, “He had my back when questions were being asked about the sexual harassment. Since he witnessed it on several occasions,” “He would make sure I was safe. He made sure that I wasn't alone in situations that were uncomfortable,” and “When others wouldn't listen he did. He made sure I was ok” to describe what was meant by each of the adjectives respectively. It is evident in these incidents that the service member acted as a safe haven in that he offered support and was “loyal” to her when she reported sexual harassment. Additionally, he provided a sense of protection in making sure she was safe in uncomfortable situations and he was somebody she could confide in, “when others wouldn’t listen”.

Another service member described his relationship with a fellow service member as passionate and stated, “Through hardship he had my back. When I couldn’t stand living at the barracks anymore, he and his wife allowed a friend and myself to move in to his guest bedroom. On deployments when I was at the peak of my stress he was there to sit me down and remind me that it was almost over. He made me remember a phrase from a country song. ‘If your [sic] going through hell, keep on moving. You might get out before the devil even knows you’re there.’ It was a constant reminder to keep my head low and just to get the job done.” This example shows clearly that the respondent felt this fellow service member responded to his internal emotional needs and was someone he could confide in as he was able to calm him down when he was “at the peak of my stress”. Furthermore, it shows evidence of protection and support as evidenced by the fellow service member allowing him to move into his home during hardship.

The remaining 48 percent of service members gave descriptions where safe haven experiences were lacking or not evident. An example of a description where safe haven experiences were lacking was a respondent who chose the adjectives “sexist”, “pig” and “racist” to describe a fellow service member. The three incidents used to describe these adjectives were “Another service member came in drunk and they sent him home. As a female I was late and got into big trouble. The other guy just got a slap on the wrist. I was punished way more than a male was”, “I was told that because I was a female that I would have to get tools and not the other male members. I was told because I was lower ranks I had to collect trash, but when other lower ranks came in I was told to still collect trash. This was just one example there were many others”, and “I was told that if I didn’t put out that I would have issues. I never did and my life was hell for a long time until I

got out.” These descriptions clearly show that the service member not only didn’t feel like the fellow service member she was describing didn’t help her with internal emotional needs, but was actually emotionally harmful. Rather than feeling protected, soothed, and accepted, she felt targeted and unsafe because of gender and race.

Most of the remaining 48 percent of service members gave descriptions where safe haven experiences were not clearly evident rather than lacking per se. For instance one service member chose the adjectives “energetic”, “thoughtful”, and “funny” and described incidents that illustrate these adjectives as, “Member was continuously active on and off duty, resulting in numerous events that brought us together under many circumstances”, “Rarely was there a time where I found myself separated from my fellow members, inclusion was a strong part of our friendship”, “Never a dull moment, deployed or at home.” While it appears that this respondent respected and enjoyed spending time with this fellow service member, there is not direct evidence that the service member responded to the internal needs of the respondent.

Support for exploration. Support for exploration was described as attention to emotional needs such as helping the respondent to learn and try new things, enjoying being with, and delighting in the accomplishments of the respondent. In this sample, relationships that exhibited evidence for support for exploration, typically involved support (in relation to doing the job or completing the military mission) and partnership around tasks. Sixty-six respondents (35 percent) gave a description in which there was at least some evidence of support for exploration, even if it was minimal. Of these 66 service members, 15 or 8 percent gave descriptions where there was sufficient evidence for support for exploration. Some clear examples of support for exploration are in

describing a fellow service member a respondent used the adjectives “manly”, “competitive”, and “influential” and stated, “We were both commanders and when we had free time, we would spend it doing stereotypical guy stuff, going to gun ranges, going to Hooters, trading stories and advice about work and women over a beer, etc.”, “We were both alpha males of relatively equal build and physicality, and would constantly one-up each other in sports, physical training, or in the nuances of command in who handles an event or situation better”, and “On multiple occasions, we would make command decisions after giving guidance to each other. We also helped each other with resources and did what we could to work as a team so we never fell too far behind or forgot a detail that our boss was looking for.” In these descriptions it is clear the respondent feels his external needs of accomplishment, trying new things and enjoying being with are being met in this relationship. He overtly stated they enjoyed being together, worked well as a team, and pushed each other to be better on the job and in the gym. Another service member chose the adjectives “education”, “direction” and “responsibility” to describe his relationship with a fellow service member. The three incidents he used to illustrate these were, “This person took the time to be patient and properly instruct me on how to be a better Marine and service member”, “I was taught by this person that decisiveness is something that most [*sic*] be developed in leaders and maintaining the ability to recognize that provided me with the direction i [*sic*] needed to be a better Marine”, and “You have to take responsibility for your actions and this leader made sure that I understood this concept of life.” There is clear evidence this respondent felt his external needs for achievement and learning and trying new things was met in this relationship as evidenced by his receiving “direction” and becoming “a better marine”

and learning to “take responsibility for *his* actions”. This respondent also felt his fellow service member was “patient” in providing support for exploration.

Finally, 120 or 65 percent of service members gave descriptions where evidence of support for exploration was lacking or not evident. An example of a description where support for exploration was lacking was a respondent who chose the adjectives “self-centered”, “comedian” and “jerk” to describe a fellow service member. The three incidents used to describe these adjectives were “When it was time to reflect on the accomplishments of our S-1 HR [sic] shop, my section leader received an award for taking responsibility of starting up the shop. I was with him along with another NCO and both of us were not recognized. He received an award and we did not. I approached him and discussed my point of view on the issue and I was not happy,” “While working with this Non-Commissioned Officer, we could joke and have a good time in the office without anyone being hurt or feeling left out”. Moreover, an incident a service member used to describe the word “jerk” was, “When I needed the most help in order to secure my future with the military and continue my time in service and get a promotion, he turned his back on me and that made me feel like I was just a useless person.” While it appears there were times this respondent enjoyed being with this service member as evidenced by his ability to joke and have a good time, he clearly felt that his needs for achievement and learning were not being met as evidenced by his feeling not recognized for what he did and feeling like he “turned his back on” him when it was time for promotion.

Most of these 65 percent of service members gave descriptions where support for exploration was not evident rather than lacking per se. For instance one service member chose the adjectives “unspoken”, “sibling”, and “unquestioning” and described incidents

that illustrate these adjectives as, “She knows what mood I am in by the tone or lack of tone when we speak”, “Like my kid sister. No one closer”, “Would not hesitate to act on my behalf. I feel the same.” While this respondent overtly states he was close to this service member and there is some evidence his internal needs were being met (she knew his mood by the tone of his voice), there is no evidence that the service member responded to the external needs of the respondent.

Overall, as expected there is evidence of attachment constructs of safe haven experiences and support for exploration in respondents’ descriptions of their relationships with a fellow service member. While the quantitative data indicate that service members in this sample reported a moderate level of security and safety in their relationship with a fellow service member, the qualitative data provide rich details about the content and specific experiences of these military relationships.

Resilience. In the qualitative survey respondents were asked “*How did you cope with your most difficult crisis or challenge related to military service?*” and “*What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?*” Service members’ answers to these questions were examined for the existence of each of the four general factors of resilience mentioned above (i.e., Social Support, Making Meaning, Regulating Emotions, Creative Coping) as well as Spiritual/Religious Growth. Overall, 143 service members or 61 percent showed evidence of at least one factor of resilience. Of these, 55 percent showed evidence of one dimension, 27 percent showed evidence of two dimensions, 11 percent showed evidence of 4 dimensions, and 7 percent showed evidence of 4 factors. No comments showed evidence of all 5 factors. Consistent with the qualitative findings for

attachment security, several service members' responses exhibited negative valence or expression of a factor of resilience such as maladaptive coping or making meaning in a negative manner. Overall 69 or 29 percent showed evidence of at least one negative expression of a resilience factor. Of these 68 percent showed evidence of only one negative factor, 22 percent showed evidence of two negative factors, seven percent showed evidence of three negative factors, one percent showed evidence of four negative factors, and one percent showed evidence of all five negative factors. Twenty-one participants or nine percent of service members had evidence of both positive and negative coping mechanisms.

Social support. Social support rated the responses for evidence the person reached out to others or received social/emotional support from others. The coding included an assignment that social support was "definitely observed," "not clear social support is present, if so it is minimal," or "not observed," in a response. In addition, a code was created to indicate a "negative valence or expression of social support".

Overall, social support was "definitely observed" in the responses of 60 or 26 percent of service members reported. For example, in answer to the question, how did you cope with your most difficult crisis or challenge, one service member reported, "I developed a strong bond with my First Sergeant and subordinate Platoon Leaders so that we could depend on each other to communicate freely and get support, like a safety net, when we were not doing our best. We shared successes with everyone so that the team was strong. The effect spread to the company and minimized the frequency and degree of misbehavior due to individuals realizing and taking responsibility for their impact on the group. The friendships and respect out of that organization are lasting beyond our

departures.” Forty-two or 18 percent of service members’ responses were coded “uncertain if present, if so it is minimal” for social support. In 128 or 56 percent of responses, social support was not observed. Unexpectedly, 8 or 3 percent of service members’ responses there was evidence of a negative expression of social support. For example, in response to the question, “How did you cope with your most difficult crisis or challenge,” a service member stated “I have been withdrawn and afraid of a relationship.”

Regulating emotions. Emotional regulation was described as evidence that the person actively notes their emotional state and attempts to regulate their emotions and/or experiences a range of emotions. For example, the person may feel fear and shock but also feelings of resolve, such as courage, compassion, hope, peace, and joy. The coding included an assignment that emotion regulation was “definitely observed,” “not clear emotional regulation is present, if so it is minimal,” or “not observed,” in a response. In addition, a code was created to indicate a “negative valence or expression of emotion regulation”.

Overall, emotion regulation was “definitely observed” in the responses of 16 or seven percent of service members. For example, in answer to the question, “What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?” a service member responded, “I learned that I repress my emotions and this can be harmful. I see myself as stronger now, even though I saw emotionality as weak before.” In 40 or 17 percent of service members’ responses the code “not clear emotion regulation is present, if so it is minimal” was assigned. In 156 or 67 percent of responses, emotion regulation was not observed. In 26 or 11 percent of

service members' responses there was evidence of a negative expression of emotion regulation. For example, in response to the question, "How did you cope with your most difficult crisis or challenge," a service member stated "with drugs."

Making meaning. Making meaning was described as making sense of the crisis or threat experience. This may include finding benefits or gains made from the adversity. For example, as a result of the struggle to cope in the aftermath of the trauma a person may affirm their fundamental beliefs, feel more self-confidence, have a deeper appreciation for life, fashion closer relationships, and report greater wisdom. Looking back on their trauma, many see themselves as having been on a mission and having served a higher purpose. They may describe the trauma as "a blessing in disguise" that has transformed their lives. Again, the coding could indicate that evidence of making meaning was "definitely observed," "not clear the dimension is present, if so, it is minimal," "not observed," or a "negative valence or expression of making meaning

Overall, making meaning was "definitely observed" in the responses of 107 or 46 percent of service members. For example, in answer to the question, "What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?" a service member responded, "I learned that I am not a coward and will risk myself for others and for duty. I also learned that I am not indestructible and I take more care with the situations I put myself in. I am a closed person and don't like help but I also have difficulty dealing with my experiences on my own. It has humbled me." In 70 or 30 percent of service members' responses the coder used the code "not clear the dimension is present, if so it is minimal" for making meaning. In 41 or 17 percent of responses, making meaning was not observed. In 20 or 9 percent of service members'

responses there was evidence of a negative expression making meaning. For example, in response to the question, “What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?” a service member stated, “I see myself as not the whole being physically and mentally that at one time I am sure I could have been. Sometimes I satisfy myself saying ‘Life is a bit cheaper and then you die.’”

Creative coping. Responses were coded as creative coping if there was evidence the person coped in the moment and/or was able to envision new possibilities by creating positive goals or activities using the coding system as described for the other dimensions of resilience. Overall, creative coping was “definitely observed” in the responses of 51 or 22 percent of service members. For example, in answer to the question, “What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?” a service member responded, “I started command much mentally weaker than I am now. I can react to bad news with greater understanding and calm now, to help eliminate panic in others and get back on track.” In 101 or 43 percent of service members’ responses the code “not clear the dimension is present, if so it is minimal” was assigned. In 42 or 18 percent of responses, creative coping was not observed. And in 44 or 19 percent of service members’ responses there was evidence of a negative expression of creative coping. For example, in response to the question, “How did you cope with your most difficult crisis or challenge?” a service member stated, “Avoid anything that reminds me of the situation.”

Religious/spiritual growth. Responses to the coping questions were coded for religious/spiritual growth if there was evidence the service member made a positive change regarding what life means in the spiritual and religious realm. Overall,

spiritual/religious growth was “definitely observed” in the responses of nine or four percent of service members. For example, in answer to the question, “What lessons have you learned in coping with this challenge? How have these lessons changed how you see yourself?” a service member responded, “I am tough through Christ I cannot handle things on my own. I must pray. I am nothing without Christ that is what I learned about myself.” Thirteen or five percent of service members’ responses were coded “not clear the dimension is present, if so, it is minimal,” for religious/spiritual growth. In 212 or 90 percent of responses, religious/spiritual growth was not observed. In 3 or 1 percent of service members’ responses there was evidence of a negative expression of religious/spiritual growth. For example, in response to the question, “How did you cope with your most difficult crisis or challenge?” a service member stated, “I have learned that I really need to be in combat and they have not really changed me at all.”

Chapter V

Discussion

The findings from this study indicate attachment theory is a powerful and viable framework for highlighting the importance of relationships in understanding resilience and PTG following military trauma. While previous attempts have tried to promote resilience such as the CSF, they weren't tied to a theoretical construct that fits the unique military demands and culture. Both quantitative and qualitative findings indicate that attachment theory is indeed a compatible approach for understanding military experiences and response to trauma.

An important contribution of the study was the development of both quantitative and qualitative attachment theory informed measures to evaluate service members' relationships. While more complex analyses are necessary for a strong construct validation of the measures, initial findings of the instrument's psychometrics properties are promising. Drawing on Benson's framework for conducting strong construct validation, preliminary steps in each of the three stages were conducted (1998). First, for both the MRS and the MAS, the theoretical and empirical domains of the attachment constructs of safe haven, secure base and coherence (the latter only for MAS) were established using discussions of attachment theory and previous research. Next, intercorrelations of the MRS items (Cronbach's alpha) were strong. Finally, the newly developed instruments were analyzed with other measures and constructs were found to perform in expected ways. The MRS and the MAS also seemed to map onto each other well in terms of the level of security in relationships service members reported with a fellow service member versus their unit, versus a leader.

Additionally, the MAS is an innovative application of an AAI informed approach to examine attachment security in military relationships. While other measures have drawn on the AAI to study romantic relationships, no other study to the author's knowledge has applied it to peer/co-worker relationships. Furthermore, this is the first study to attempt to use the AAI assessment method to measure attachment in on-line format. There are obvious limitations with this method, such as the lack of opportunity to determine if the question was understood and the lack of encouragement to elaborate descriptions. The online format may have a tendency to overpathologize respondents based on lack of opportunity to provide a comprehensive response. Nonetheless, in regards to coherence the means and percentages of service members coded as secure seemed to correspond with quantitative findings (i.e.; relationship with service member had the highest level of security, followed by unit, followed by leader).

In terms of the quantitative relationship between attachment and PTG, the safer and secure service members felt in their relationships with fellow service members, their unit, and their leaders, the fewer PTSD symptoms they reported and the more likely they were to experience posttraumatic growth. These quantitative findings are consistent with the literature that suggests secure attachment and social support contribute to resilience and PTG and extends these findings to US service members. More specifically, these findings underscore the importance of relationships within the military as crucial to an individual's ability to adapt and even grow in the aftermath of trauma.

The qualitative data further corroborated this finding. First, the trauma events report showed that several of the top reported most stressful experiences involved interpersonal trauma such as losing a comrade, poor leadership, being attacked by the

enemy, responding to casualties, and military sexual trauma. Furthermore, service members described their relationship with a fellow service member, unit and leader in terms that invoke meanings that have direct implications for attachment safety and security, in terms such as loyal, dependable, devoted, supportive, caring, brotherly, fatherly, friend, trustworthy and, selfish, untrustworthy, and uncaring. These characteristics not only provide evidence for the importance of attachment safety in relationships, but they also highlight what attachment qualities are named by service members as important in military relationships.

There was evidence of both the safety and exploration components of the Attachment Security model in service members' descriptions of their relationship with a fellow service member. Several service members indicated they felt supported and protected when in dangerous or vulnerable situations (i.e., combat, disclosing sexual assault). Others described incidents where they felt their comrade consistently responded to their internal emotional needs. By contrast some service members revealed that a fellow service member not only didn't provide a feeling of safety and support, but instead targeted and discriminated against them because of gender or race. Evidence of the exploration component of attachment security was also discovered. Several service members reported feeling like their comrade consistently responded to their external need for accomplishment. Comments from respondents alluded to working well together as a team, feeling challenged and enjoying being with. Others referred to incidents where they were pushed to try and learn new things. On the contrary, some service members revealed they not only did not feel supported and encouraged, but they felt too much on their own or even betrayed.

Interestingly, security and safety in military relationships predicted level of PTG and PTSD independent of demographics (age, education level, rank), number of deployments and combat exposure according to quantitative findings. This was corroborated by the qualitative Traumatic Events Report that indicated only half of the most stressful experiences occurred during deployment (the remainder occurring in garrison, or overseas location) and only a quarter involved combat exposure. This has important implications for the importance military relationships across time, location, and conditions. Many studies have found the attachment system is activated and is adaptive when someone is in harm's way (e.g., separated from an attachment figure or deployment to a combat zone). This study further bolsters these findings while extending the importance of attachment regardless of whether someone has experienced combat or is still in the service. For instance, many of the respondents did not experience combat and the majority were student veterans with several years having gone by since they separated from the military. Thus, safety and security in military relationships continues to be implicated in resilience and growth across diverse service members and across a variety of experiences and circumstances. This is consistent with recent data that points to belongingness and meaningful involvement as more predictive of PTSD than is the severity of combat trauma (Junger, 2016).

Just as there was evidence of both attachment and PTG in the quantitative data, there was evidence of these constructs in the qualitative data. Constructs of resilience and PTG (in both negative and positive valence) were evident in service members' responses with 61 percent of service members reporting at least one factor of resilience. As suggested by quantitative findings and previous research, social support was one of

the most endorsed factors of resilience (reported by 26 percent of service members). Service members described a “strong bond” with other service members and an ability to “depend on each other to communicate freely and get support, like a safety net” and develop “friendships...beyond our departures.” Three percent of service members’ responses showed negative expression of social support such as becoming “withdrawn” from people and being “afraid of a relationship”. This again reaffirms the importance of relationships in coping with trauma. The making meaning factor was the most endorsed factor (was reported by 46 percent of service members). Service members reported learning that “I can react and cope with life and death situations better than expected” and that “I am not indestructible” and “it has humbled me”. Nine percent of service members reported making meaning in a negative light stating that a lesson learned was to “Avoid anything that reminds me of the situation.” Such responses point to evidence of posttraumatic growth at one extreme and post-traumatic stress symptoms at the other.

Twenty-two percent of service members reported creative or adaptive coping. Service members reported envisioning new possibilities such as “The event would eventually lead me to my pursuit of my neuroscience degree.” Another service member described coping in the moment as “the mundane or stress disappears behind the wall of working towards goals.” On the other hand, negative expressions of coping were reported by the highest number of service members (19 percent) with multiple service members reporting coping through “drinking”, “drugs”, “sex” and other maladaptive coping techniques such as “ignored it and played video games”. This is congruent with considerable research on high levels of substance abuse and other addictive behaviors

amongst service members with PTSD and other mental health conditions (Currier et. al, 2012; Tripp, McDevitt-Murphy, Murphy, & Avery 2014).

Evidence of emotion regulation was found in the least amount responses by service members (7 percent). One service member reported that by acknowledging emotions “I see myself as stronger now, even though I saw emotionality as weak before.” Another NCO noted “Though I had many moments of frustration, anger, anxiety, and depression, I felt that the more I tried to remain functional during these instances, the easier it got.” On the contrary, 11 percent of service members reported instances of negative expressions of emotion regulation. For instance, service members spoke of trying to “avoid conflict”, “bottle up” or “bury” emotions and using anger “as an outlet”. Some of these examples may serve an adaptive function in a time of crisis, namely by the necessity of emotional suppression when in a life threatening situations for survival purposes. However, poor emotion regulation in the long run can create problems in intimate relationships when returning home (Riggs & Riggs, 2011). Furthermore, this finding might be explained by the fact that military culture tends to see emotional expression as a weakness (Bryan, Jennings, Jobes, & Bradley 2012).

Pattern of Negative Responses

Descriptions of negative coping and descriptions of negative interpersonal interactions was a consistent pattern across the data. While some responses provided clear evidence (quality) of attachment security, there was not as much evidence (quantity) as expected. For instance, half of service members showed minimal to clear evidence of safe haven experiences and only 35 percent showed minimal to clear evidence of support for exploration. Moreover, while coherence of service members’ responses was evident,

it was lower in proportion (39 percent categorized as “secure”) than the percentage typically found in the general population (60-70 percent). There are several possible reasons for these findings. First, as mentioned above this may be measurement error as the online survey did not ask respondents to elaborate when giving short, vague answers. Moreover, respondents may have interpreted the question incorrectly. Also, research suggests the members serving in this volunteer force are more likely to have a history of complex trauma than the general population. As noted in the literature review, this can be more predictive of mental health problems than the severity of the trauma itself (Department of Veterans Affairs, 2013; Patrick, Critchfield, Vaccaro, & Campbell, 2011; Seifert, Polusny, & Murdoch, 2011; Junger 2016). Another possible explanation is that service members are more likely to experience ruptures in and loss of relationships due to multiple deployments and putting themselves in harm’s way. This can lead to lower feelings of security in relationships and potentially a preoccupied attachment style where there is a tendency to have unrealistic standards of how a relationship should meet ones needs.

A lower than expected rate of reported attachment behavior was mirrored in reported level of resilience with 61 percent of service members showing at least one dimension of resilience and 55 percent of these showing evidence of one dimension. This aligns with the quantitative finding of the low level of PTG reported in this population. This makes sense given the positive correlation between attachment security and PTG.

Leaders' Influence on Post-Trauma Reactions

The current study highlights the importance of military leaders in reducing the risk of PTSD. While close relationship with a fellow service member contributed to veteran resilience, close relationship with a leader contributed slightly more. This is in line with findings from a survey done amongst Marines and Soldiers deployed to Iraq between 2005 – 2009. Positive officer and NCO leadership was the key factor (among several tested) to sustaining Soldier and Marine mental health and well-being during OIF even when controlling for combat experience (MHAT IV, 2006, Office of the Surgeon General, 2009). If one has been exposed to combat yet has a positive relationship with a leader, the effects of the combat may be attenuated. If however, one has a toxic leader, the intensity of the combat may be less important as having a toxic leader can make one feel less safe. The impact of military leaders is further supported by a qualitative study that linked toxic leaders to suicide by their subordinates (National Public Radio, 2014).

Qualitative data in this study further confirmed the impact a leader (whether positive or negative) can have on response to trauma. For example, the lowest percentage of secure attachment responses was with leader. In a related vein, one of the top reported trauma experiences (13 percent) was poor leadership to include toxic leadership. This is similar to findings of the Center for Army Leadership's Annual Survey of Army Leadership (Steele, 2011) which found that 20 percent of respondents said they had worked directly for a toxic leader.

The qualitative data helped identify the broad range of ways service members viewed influential leaders. Positive adjectives like "honest", "positive", "fair", "caring" and "competent" as well as negative adjectives like "selfish", "incompetent", "uncaring",

untrustworthy. Service members described their leaders in safe haven terms as protecting the unit from too many taskings, exhibiting concern about the safety of their troops, and exhibiting clear thinking and reasonable action under stress. They described their leaders in secure base terms as promoting exploration by praising them when they performed well and providing clear guidance on how tasks and missions are to be accomplished. These findings highlight the import of an attachment informed perspective in understanding how leaders can foster resilience. For instance, can have an impact by fostering unit cohesion and morale and by creating a climate where service members feel secure and safe. Based on an attachment security framework, leaders are in a crucial position to influence a service member's response to trauma. When leaders exhibit a secure attachment style, they will be seen as compassionate, wiser and competent, thus facilitating the likelihood a service member will be able to make sense of and even grow from a highly challenging experiences. Indeed, research of military leaders has shown "hardiness" (another word for resilience) and leadership interact to influence unit cohesion (Bartone et al., 2002).

Additionally, leaders can influence response to trauma by their rank. Military rank has a direct influence on a service member's social status within a unit and can affect their ability to feel safe and secure. Unit leaders can attenuate the potential negative impact of military rank by not showing favoritism and by treating all members of the unit fairly. This may be most visible in a chain of commands response to a service member's report of sexual assault. Indeed more than half of the service members in this study who reported their most traumatic event was sexual assault indicated that either a leader was the perpetrator or ignored their report of sexual assault. If military leadership

is the source of the harm or responds with skepticism or victim blaming, the service member may have an increased likelihood of experiencing PTSD (Ullman, Townsend, Flippas, & Starzinsky, 2007). From a cognitive perspective, this makes sense because even though a sexual assault can have an adverse effect on an individual's feeling of safety and security in their relationships with others, if unit leadership is supportive, just, and compassionate, the sexual assault survivor's beliefs about themselves and the world around them may be less likely to result in PTSD.

Unit Cohesion and Post-Traumatic Growth

Interestingly, while relationship with unit was not a unique contributing factor in reducing PTSD symptoms, it was the only contributing factor in promoting PTG (See Figure 5). At first glance this may seem contradictory given relationship with unit was not implicated in PTSD. However, as mentioned earlier resilience is conceptualized as resistance to PTSD or fewer PTSD symptoms in response to trauma, whereas PTG is conceptualized as positive growth in response to the struggle in the aftermath of trauma. Hence, we are really looking at two related but different processes. This is in agreement with the theoretical and empirical research that PTSD and PTG are related, but independent responses to trauma. From this perspective it makes sense that there would be different relational pathways to PTG and PTSD. As indicated in the literature review of this study, social support is a robust contributing factor to PTG. Across studies, social support often emerges as an important factor (Echterling & Stewart, 2010), offering affirmation, validation, and practical assistance. During especially demanding, threatening or challenging experiences, securely attached group members are better equipped to confidently turn to others for assistance and disclose trauma experiences, a

key factor in the likelihood a trauma victim will experience PTG. As mentioned earlier, rank can also impact whether someone feels comfortable disclosing. Thus, in units where members feel everyone is treated equally and rank is not abused, service members may be more likely to feel more comfortable disclosing, thus having the opportunity to make sense of their experiences in the service of positive change. .

Qualitative data in this study corroborated the impact a unit (whether positive or negative) can have in response to trauma. For example, more negative adjectives were used to describe relationship with unit than relationship with service member or leader. The adjectives used to describe service members' relationship with unit helped identify the broad range of ways service members viewed influential units. Positive adjectives like "family" loyal", "supportive", and "excitement". Negative adjectives like "negative "incompetent", hostile", and "unreliable" were also used by service members. Service members described their units in safe haven terms as meeting each other's internal, emotional needs. One service member related how his unit helped to soothe a member of the unit who had accidentally shot and killed another member of the unit. He stated his unit felt empathy for the member who had the accident and tried to support him while also mourning the loss of the other member. Service members described their units in secure base terms as promoting exploration by working together and encouraging each other to do better as a team and enjoying each other's company. For example, one service emm member reported, "Everyone in the unit was highly capable. Typically the winners of the bomb competition would all have 100% hits, so we would have to adjudicate the winner in a flyoff and differentiate between pilots by who's bomb hit the ground closest (in seconds) to the desired time. It was a relationship of shared

competence and professionalism.” Another service member related, “The memory that comes to mind... tis Tug-O-War. Air Force guys, on an Army base, beating them every year for 8 years in a row at Tug-O-War because of our teamwork! The look on their faces was always priceless!”

Limitations

Limitations to this study are related to characteristics of the sample, the measures used and the methodology. While a large sample size increases the chances of finding a significant effect, the small relationship between MRS and PTG and PTSD symptoms after controlling for variables known to predict outcome, indicates that finding a significant effect could have been due, in part, to the sample size. In addition, most of the participants in this study were student veterans, which means the findings may not be generalizable to service members in general (especially to those who are unemployed, seriously mentally ill, or homeless). For instance, given that education has been found to be predictive of PTG, it may be that the participants in this study are more resilient than those who don't go on to seek education after separating from the military.

Given time constraints and lack of resources, not all of the qualitative data was coded by “blind” coders, potentially introducing bias into the findings. While the coders of the coherence, safe haven and support for exploration data were not privy to the hypotheses and quantitative findings, the coders of the traumatic events report, and resilience data were the primary researcher and his advisor. However, the latter coders sought to limit their bias by being conservative in the ratings they gave to responses and by adhering strictly to the coding guides.

The MRS was developed for this study and demonstrated good psychometric properties; however, it has not been thoroughly validated. The measure was meant to be brief while also measuring dimensions of safety and security as comprehensively as possible. Nonetheless the measure does not include negative aspects of a relationship which might be indicative of an insecure relationship even if positive aspects are endorsed. Future studies to further explore the measure's validity and psychometric properties would be useful.

Another instrument related limitation is related to the PTSD Check List-Military measure. The PCL-M is a good screening measure for PTSD, however, it does not confer a diagnosis of PTSD. Thus, just because respondents receive a high score on this measure it does not mean they necessarily have PTSD.

As mentioned in the methods section, the item to note combat exposure may not fully reflect actual combat exposure. Hence, the finding of a significant effect for military relationships above and beyond combat exposure may in part be due to not fully controlling for combat exposure. The problem of assessing this variable is not unique to this study. The measure of "number of deployments" is uniquely defined for this study. The literature typically refers to combat related deployments that last more than a few months as related to negative mental health outcomes, whereas the current study measured all deployments 30 days or more.

Recommendations to the Military

Programs like the Comprehensive Soldier Fitness program signal an important shift from a sole focus on the negative sequelae of military trauma to the potential for PTG in the aftermath of the trauma. Military policy makers, regional and local unit

leaders, entire programs such as the CSF, mental health professionals, and individual service members should continue to explore ways to foster resilience in service members. Given this study demonstrates the numerous ways in which attachment relationships within the military already promote resilience and even PTG, it is recommended the field consider how to more deliberately incorporate the constructs of attachment and PTG into an organizing framework for the rehabilitation of service members with PTSD.

For instance, programs like the CSF could use attachment as a guiding theoretical framework to highlight the centrality of military relationships in decreasing the risk of PTSD and in promoting PTG. Service members and leaders could be taught that meeting the internal emotional and external achievement needs of service members can be just as crucial for mission accomplishment as meeting physical needs such as food, water, shelter and armament. Service members could be taught how those struggling with PTSD could benefit from safe and secure relationships and even experience PTG, thus helping to reduce stigma and promote more cohesion and greater self-efficacy in the aftermath of trauma.

Given the influence of leaders on the recovery process, the military should consider implementing attachment based interventions to teach leaders about the attachment needs of service members. The Attachment Security framework (Whelan & Stewart, 2015) could be used as a model to teach leaders attachment theory's key constructs that relate to leadership and its effects on response to trauma. The circle diagram (see Figure 1) could be adapted to emphasize the importance of attending to the internal emotional and mental experiences of service members and the importance of providing an emotional environment that is sensitive, flexible and adaptive depending on

the external needs of an individual service member. They could be taught how to recognize different attachment styles and be educated on how oppositional or rejecting behavior is often a sign a service member is stressed. The current study also highlights the important role leaders play in responding to military sexual assault. Military leaders should be educated on how their response to a victim's report can influence the development and recovery from post-traumatic stress.

An attachment theoretical model of therapeutic change for the military is essentially nonexistent. Given the current study's findings, the Attachment Security framework adapted for military mental health treatment could improve service members' adjustment to various phases of the deployment cycle and even promote PTG. Such a framework could allow military therapists to make sense of post-traumatic reactions, especially in the context of here-and-now relational interactions between service member and clinician. Given the multiple systems therapists and service members encounter, an attachment based framework could help therapist understand the service members post-traumatic symptoms in terms of attachment needs. By attending to those needs, the military therapist can coregulate the service members' internal thoughts and emotions which in turn can lead to improved interpersonal interactions and healing.

Attachment and PTG could also help guide our understanding of and how to respond to the needs of service members during different phases of their military service. For instance, assuming the MRS holds up well in further analyses, it could be used to screen for new recruits for attachment style. Their score along with asking them about childhood trauma could help determine whether service members might be made aware of extra resources. Furthermore, leaders and drill sergeants could be added to the

screening measures already in existence to ensure we put the most secure and resilient service members in positions where there is a high risk for abuse of authority.

The MRS scale could also be implemented as part of the Unit Behavioral Health Needs Assessment Survey (UBHNAS), a tool used to assess the mental health status and needs of a military unit throughout the deployment cycle. The MRS could be given pre- and post-deployment to evaluate a service members level of attachment security in the context of military relationships and intervene where necessary. It also might be given to units before to deployment to inform commanders of the emotional readiness and morale of their unit. Attachment and PTG constructs could also more deliberately guide reintegration programs already in place (such as the Yellow Ribbon Program) to help service members reintegrate post deployment and upon separation from the military and transition to civilian life. The findings of this study suggest that an ongoing connection with other veterans, especially those served alongside, can foster resilience.

Finally, community and government organizations can consider implementing attachment and resilience frameworks to understand the key components of healthy relationship development and put in place programs and policies that can shape the attachment experiences and development toward health. For instance, instead of overpathologizing or blaming the service member for negative behavior (i.e.; excessive drinking) communities could see such behaviors as attempts to get attachment needs met and provide attachment informed rehabilitative services. Furthermore, communities can be educated on the importance of getting to know veterans in their communities and do more than just thank them for their service. One thing veterans can do to feel more attached to their community is to engage in volunteer service and perhaps work in public

service positions. This is in keeping with the importance of reciprocity in healthy adult attachment relationships. In other words, when service members give back to their community, they act as a secure base and safe haven for others, thus allowing them to feel a valued and important part of the community when coming home from deployment or separating from the military. Communities can facilitate deep and reciprocal attachment relationships with veterans by prioritize hiring of veterans in public service jobs and facilitating community events where veterans are given the opportunity to share their experiences with community members (Junger, 2016). Furthermore, veterans and employers can work together to facilitate employee resource groups that bring veterans together across various work places where they can support one another in the transition process. In these ways, safe haven and secure base needs of service members could be met, in turn fostering resilience and even PTG.

Future Research Directions

To the author's knowledge, this study is the first to examine the relationship between attachment and PTG in US service members. Most of these were veterans separated from the military and several years past their traumatic experience. Future studies could examine this relationship in service members currently on active duty and across diverse backgrounds and settings.

Unintended findings included the invoking of negative adjectives, lower than expected expressions of attachment security (not as much evidence of SH and SE as expected) and low to moderate evidence of PTG. Future studies could parse out whether this finding is because service members are more likely to have an insecure attachment style (due to prior trauma, trauma within the military or both) or whether this finding is

due to measurement error. In-person interviews with service members could certainly provide even greater understanding on this topic. A case study of a thriving unit that has been in existence for many years could also provide rich information what such units do from an attachment perspective to foster resilience.

Future research could also be conducted to further the psychometric validity of the attachment based measures of the MRS and MAS. For instance, respondents could be interviewed about their interpretations of the MAS questions to ensure they are understanding them as intended. Technology could also be used to make the MAS more flexible and allow for prompts when participants give vague or short answers. Furthermore, while the MRS has good preliminary validation statistics, a factor analysis study is needed to determine how well the items fit attachment theory domains of safe haven and support for exploration. Subsequently, generalizability theory could be used to determine how representative the items are of attachment theory and how adequately the number of items capture the distinctive features of attachment theory (Benson, 1998).

Conclusion

Though attachment bonds tend to remain stable throughout life (Collins & Read, 1994; Main, Kaplan, & Cassidy, 1985), service members are at risk for severe traumas such as war, tragedy and abuse that can disrupt attachment relationships and negatively impact attachment security and safety (Bretherton, 1985). Additionally, military deployment, with its separations and reunions between family members and service members, naturally triggers the neurologically based attachment system. Current rates of PTSD in US service members has found that veterans of OEF/OIF/OND have the highest rates of PTSD in the history of the military. However, most service members diagnosed

with PTSD have never seen combat (Junger, 2016). Lack of social support and difficulty reintegrating to society can negatively impact post-traumatic stress reactions long after war.

While it remains important to understand the negative consequences of military trauma, a paradigmatic shift towards the connections between attachment and PTSD potential is called for to increase resilience and PTG in service members. Attachment theory provides a solid empirical and theoretical foundation for resilience theory as it highlights the kinds of relationships and processes inherent in military culture that foster resilience. By employing an attachment and resilience framework, military organizations and health care providers can better incorporate strength-based and relational dimensions into their policies, training, and programs.

The quantitative portion of this study demonstrated that relationships in the military matter, relationships with other service members matter, with leaders matter, and with the unit, writ large, matter. The qualitative portion of this study reported the broad and varied lived experiences of service members' relationships – providing many answers to the question of why and how relationships matter in the voice of service members.

Appendix A

Consent to Participate in Research

Identification of Investigators & Purpose of Study

You are being asked to participate in a research study conducted by Chauncy Brinton and Dr. Anne Stewart from James Madison University. The purpose of this study is to examine what helps service members grow from a crisis or challenge faced during military service. This study will contribute to the completion of the primary investigator's doctoral dissertation and findings may be presented at professional presentations and in peer-reviewed journals.

Research Procedures

This study consists of an online survey that will be administered through Qualtrics (online survey tool). Once all questions regarding the research have been answered to your satisfaction, you will be asked to provide answers to a series of questions related to how you coped with crises or challenges while serving in the military. Should you decide to participate, you may access the anonymous survey by clicking on the button under the "Giving of Consent" section.

Time Required

The time required to participate in this study will depend on your approach to taking a survey. Question items consist of both multiple choice and open-ended responses. While some participants may be able to complete the survey in 30 minutes or less, we expect that your participation will take no longer than 1 hour of your time. If you cannot complete the survey in one sitting, your progress will be saved for up to 2 weeks. However, in order to continue where you left off you will need to access the survey link from the same computer or mobile device from which you initiated the survey.

Potential Risks

Because this study examines what helps veterans cope, we will be asking you to reflect on a challenging circumstance/crisis related to your time in the military and how you coped with this challenge. For instance, if the most challenging crisis you experienced in relation to your military service involved combat, interpersonal distress, etc, you will reflect on how you coped with your challenging circumstance/crisis. Such reflection may be distressing for some and we encourage you to consider whether you wish to participate.

Should you choose to participate, know that you are in no way obligated to answer every question posed and you are free to discontinue the survey at any time. Furthermore, if at any time throughout the survey or following the survey you feel a need to speak with a professional about your stressful experiences we encourage you to call the 24/7 Military Crisis Line at 1-800-273-8255 and press 1 (this number will be provided again at the end of the survey). If you feel you need more clarification on what this survey is asking you to do, please contact the researcher and/or his advisor listed below via email or phone and they will answer your questions as soon as possible.

Potential Benefits

This study may help you reflect on the positive consequences of crises and challenges and further bolster your capacity to cope. Furthermore, the results of this survey may help other

veterans and the military at large better understand how to foster resilience in service members. At the completion of the survey you will also be given the opportunity to submit your email address to be entered into a raffle for one of four \$50.00 Amazon gift cards. Please be assured that should you choose to participate in the raffle, your email address will be saved separately from your survey responses to protect your anonymity. After the raffle your email address will be deleted from our records.

Confidentiality

The results of this research will be presented at local and national psychology conferences and will be published in the primary researchers dissertation document. The results will be coded in such a way that individual respondents' identity cannot be recognized. The researcher retains the right to use and publish non-identifiable data. Individual responses are anonymously obtained and recorded online through Qualtrics, data is kept in the strictest confidence.

Participation & Withdrawal

Your participation is entirely voluntary. You are free to choose not to participate. Should you choose to participate, you can withdraw at any time without consequences of any kind. However, once the anonymous survey is submitted, you can no longer withdraw. Questions about the Study If you have questions or concerns during the time of your participation in this study, or after its completion or you would like to receive a copy of the final aggregate results of this study, please contact:

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Questions about Your Rights as a Research Subject:
 Dr. David Cockley
 Chair, Institutional Review Board
 James Madison University
 Phone: (540) 568-2834
 Email Address: cocklede@jmu.edu

Giving of Consent I have been given the opportunity to ask questions about this study. I have read this consent and I understand what is being requested of me as a participant in this study. I certify that I am at least 18 years of age. By clicking on the button below, and completing and submitting the anonymous survey that follows, I am consenting to participate in this research.

Appendix B

Instruments

Military Relationships Scale©

Relationship with Fellow Service Member

Reflect on the relationships you had with your fellow service members. Identify a fellow service member whom you relied on the most during your military service. This is a person who provided you with a genuine sense of safety and security.

Item	Please mark how much you agree or disagree with each statement on a 1 - 6 scale: 1 (<i>Strongly disagree</i>) 2 (<i>disagree</i>) 3 (<i>somewhat disagree</i>) 4 (<i>somewhat agree</i>) 5 (<i>agree</i>) 6 (<i>strongly agree</i>).
I was able to take on hard tasks with the help of this person.	
I know this person had my best interests at heart.	
This person understood my distress when I faced challenges.	
I was able to relax and have fun with this person.	
I felt like this person knew and appreciated my good qualities.	
This person remained supportive even if I was angry or upset.	
I knew this person would stand up for me when I needed it.	
I felt safe sharing worries and fears with this person.	

Military Relationships Scale© continued

Relationship with Leader

Reflect on the relationships you had with your military leaders. Identify a leader whom you relied on the most during your military service. This is a person who provided you with a genuine sense of safety and security.

Item	Please mark how much you agree or disagree with each statement on a 1 - 6 scale: 1 (<i>Strongly disagree</i>) 2 (<i>disagree</i>) 3 (<i>somewhat disagree</i>) 4 (<i>somewhat agree</i>) 5 (<i>agree</i>) 6 (<i>strongly agree</i>).
I was able to take on hard tasks with the help of this person.	
I know this person had my best interests at heart.	
This person understood my distress when I faced challenges.	
I was able to relax and have fun with this person.	
I felt like this person knew and appreciated my good qualities.	
This person remained supportive even if I was angry or upset.	
I knew this person would stand up for me when I needed it.	
I felt safe sharing worries and fears with this person.	

Military Relationships Scale© continued

Relationship with Unit

Reflect on the military units you belonged to. Identify a unit you relied on the most during your military service. This is a unit that provided you with a genuine sense of safety and security.

Item	Please mark how much you agree or disagree with each statement on a 1 - 6 scale: 1 (<i>Strongly disagree</i>) 2 (<i>disagree</i>) 3 (<i>somewhat disagree</i>) 4 (<i>somewhat agree</i>) 5 (<i>agree</i>) 6 (<i>strongly agree</i>).
I was able to take on hard tasks with the help of this unit.	
I know this unit had my best interests at heart.	
This unit understood my distress when I faced challenges.	
I was able to relax and have fun with in this unit.	
I felt like this unit knew and appreciated my good qualities.	
This unit remained supportive even if I was angry or upset.	
I knew this unit would stand up for me when I needed it.	
I felt safe making worries and fears known to this person.	

Military Attachment Survey

The last several questions will ask you to reflect in greater depth on your relationship with the fellow service member, leader, and unit you identified previously. It may take a minute to answer the questions thoroughly. We appreciate you taking the time to answer thoughtfully and honestly.

1 - Think of the fellow service member whom you felt close to during military service (the one you identified earlier). Write 3 adjectives or words that tell about your relationship with this individual.

Adjective 1

Adjective 2

Adjective 3

2 - You say your relationship with the fellow service member was (Adjective 1, Adjective 2, Adjective 3). Please describe a memory or an incident that illustrates what you mean by (Adjective 1, Adjective 2, Adjective 3). Please be specific as you can about the incident/memory.

3 - Is this service member someone who helped you cope in the aftermath of your most difficult crisis or challenge related to military service?

Yes

No

4 - Think of the military leader whom you felt close to during military service (the one you identified earlier). Write 3 adjectives or words that tell about your relationship with this individual.

Adjective 1

Adjective 2

Adjective 3

5 - You say your relationship with your leader was (Adjective 1, Adjective 2, Adjective 3). Please describe a memory or an incident that illustrates what you mean by (Adjective 1, Adjective 2, Adjective 3). Please be specific as you can about the incident/memory.

6 - Is this leader someone who helped you cope in the aftermath of your most difficult crisis or challenge related to military service?

Yes

No

7 - Think of the military unit that you most identified with during military service (the one you rated earlier). Write 3 adjectives or words that tell about your relationship with this unit.

Adjective 1

Adjective 2

Adjective 3

8 - You say your relationship with your unit was (Adjective 1, Adjective 2, Adjective 3). Please describe a memory or an incident that illustrates what you mean by (Adjective 1, Adjective 2, Adjective 3). Please be specific as you can about the incident/memory.

9 - Is this a unit that helped you cope in the aftermath of your most difficult crisis or challenge related to military service?

Yes

No

Post-Traumatic Growth Inventory

Indicate for each of the statements below the degree to which this change occurred in your life as a result of the previously identified difficult crisis/challenge you had to cope with during your military service:

0 = I did not experience this change as a result of my traumatic event

1 = I experienced this change to a very small degree as a result of my crisis/challenge

2 = I experienced this change to a small degree as a result of my crisis/challenge

3 = I experienced this change to a moderate degree as a result of my crisis/challenge

4 = I experienced this change to a great degree as a result of my crisis/challenge

5 = I experienced this change to a very great degree as a result of my crisis/challenge

- 1) I changed my priorities about what is important in life.
- 2) I have a greater appreciation for the value of my own life.
- 3) I developed new interests.
- 4) I have a greater feeling of self-reliance.
- 5) I have a better understanding of spiritual matters.
- 6) I more clearly see that I can count on people in times of trouble.
- 7) I established a new path for my life.
- 8) I have a greater sense of closeness with others.
- 9) I am more willing to express my emotions.
- 10) I know better that I can handle difficulties.
- 11) I am able to do better things with my life.
- 12) I am better able to accept the way things work out.
- 13) I can better appreciate each day.
- 14) New opportunities are available which wouldn't have been otherwise.
- 15) I have more compassion for others.
- 16) I put more effort into my relationships.
- 17) I am more likely to try to change things which need changing.
- 18) I have a stronger religious faith.
- 19) I discovered that I'm stronger than I thought I was.
- 20) I learned a great deal about how wonderful people are.
- 21) I better accept needing others.

Appendix C

Coding Guides

Resilience Definition for Coding

Studies on the process of resilience have consistently identified four general factors that promote successful resolution of crises. These four pathways to resilience are social support, making meaning, managing emotions, and successful coping strategies.

Ratings

- 1 = XX negative valence or expression of resilience dimension (negative coping or emotion or meaning making or reaching out)
- 2 = XX not observed
- 3 = XX not certain
- 4 = XX definitely observed

PTG Additional Theme column

Evidence of 4 dimensions of resilience in times of crisis:

Social Support

Evidence the person reached out to others OR
Received social/emotional support from others

Reaching out to others
Receiving support from others

Turned to others in times of threat, ex. share their stories with others, seek out others to make sure they were ok

Making Meaning

Evidence the person is making sense of the crisis or threat experience. This may include finding benefits or gains made from the adversity

Ex., may affirm fundamental beliefs, feel more self-confidence, have a deeper appreciation for life, fashion closer relationships, and report greater wisdom. Looking back on their trauma, many see themselves as having been on a mission and having served a higher purpose. They may describe the trauma as “a blessing in disguise” that has transformed their lives.

Regulating Emotions

Evidence that the person actively notes their emotional state and attempts to regulate their emotions and/or experiences a range of emotions. Ex, the person may feel fear and shock

but also feelings of resolve, such as courage, compassion, hope, peace, and joy.

Creative Coping

Evidence the person coped in the moment and/or was able to envision new possibilities by creating positive goals or activities. Ex., begin to see a future, survivors gain a sense of direction and hope, become more motivated, and increase their momentum towards resolution and dealing with challenges.

Religious/Spiritual Growth

Responses to the coping questions were coded for religious/spiritual growth if there was evidence the service member made a positive change regarding what life means in the spiritual and religious realm.

Appendix D

Qualitative Data

Traumatic Event Report

- Combat (direct fire, gunfire, mortar, IED etc.) – Reported by 56 SM's total
 - Combat (fired upon and returned fire) – 8
 - Combat (fired on enemy) -2
 - Combat (IDF) – 2
 - combat (in general) – 4
- death of close SM's, civilians (3) (either witness firsthand if a stranger or learned about death of someone close) – 29
- Responsibility for fellow SM (i.e., died under watch or potential for death under watch, survivor's guilt) – 10
- Poor leadership (clearly toxic, Possibly toxic: but surely neglectful(2), unsupportive(9)) – 28
- Responded to casualties (dead or wounded) – 21
- deployment (in general, mentioned long hours, losing meaning in life, multiple deployments etc.) – 12
- MST (often involves leadership not responding (2))– 12
- Occupational stress (having to work long hours, few resources, staff and much work, unpredictability, etc.) – 9
- Suicide (of close SMs) – 7
- Problems with Adjustment to military – 6
- Reintegration (post deployment) – 5
- Reintegration (retirement, sep from mil) - 3
- Persecution within military (hazing, emotional abuse, shaming) – 5
- Separation or divorce from spouse (military service identified as major stressor leading to separation or divorce) -5
- Sexual harassment within military (by leader (1)) – 4
- Training accident (life threatening) – 4
- Family trauma (miscarriage, domestic abuse (2), spouse illness) – 4
- Killed others (enemy 3) - 3
- Geographical separation from family – 3
- Committed crime (military (i.e., AWOL) or civilian) – 3
- Feeling misunderstood, persecuted by society – 2
- Personal injury (leading to medical separation, or loss of previous ability)- 2
- Unwilling to disclose – 2
- Dealing with mental illness – 2
- Physical assault – 2
- Addiction (ETOH) – 1
- natural disaster-1
- Reporting unethical behavior (i.e., whistleblowing) – 1
- Unwanted administrative separation from the military - 1

- Witnessing injury – 1
- No answer (either left blank, or put N/a) - 54
- Unclear - 11

Location of Traumatic Event:

- Deployed – Reported by 109 SMs
 - AFGHANISTAN – 48
 - Iraq – 46
 - Vietnam – 3
 - Qatar – 2
 - Kuwait -2
 - Multiple locations– 2
 - Kosovo – 1
 - Guantanamo Bay- 2
 - Bahrain - 1
 - Saudia Arabia – 1
- In garrison – 44
- Overseas (korea (2), Turkey, Thailand, Germany (2), panama, somalia) – 9

Military Attachment Survey

*Out of 1,339 adjectives (from relationship with SM, LDR, and Unit) 366 of these were coded by both raters (27%)

*Overall 65 (39%) participants classified as secure across all relationships.

- **Relationship with SM:**

- 96 participants' responses were not scorable due to no adjective, no description, description does not match adjective (but has specificity or is episodic).
- 183 participants – had between 1 and 3 coherence scores. Of these:
 - 168 participants (92%) gave 3 scorable responses ,
 - 8 participants (4%) gave 2 scorable responses.
 - 7 (4%) gave 1 scorable response.
 - Coded by both raters: 50 (27%)
- Mean Coherence score = 3.71
 - Standard Deviation = 1.15
 - Median = 3.45
 - Mode = 2.67
 - Min = 1.33
 - Max = 7.00
- Number of participants in the secure attachment range (coherence score of 4 or greater) = 77 (46%).
- Was this a SM who helped you cope in the aftermath of your most stressful experience?
 - Yes: 122 (43%)
 - No: 101 (36%)
 - No Answer: 58 (21%)

Adjectives (and their counts) used to describe relationship with SM

Key: N = Clearly negative adjective; PN = Potentially negative adjective

1. Loyal/loyalty True, Valiant/ Faithful, Dependable (depended upon)(12), Reliable(7), Dedicated(5) - 55
2. Kind(10), Caring/Cared (10), Compassionate (5) Loving/love(4), Empathetic (2), Thoughtful(2) – 33
3. Friend (12)/ Friendship (1)/Best friend (5) best buddies/bosom buddy/buddie(3), Comrades(2)/Comrad/Comraderie, Ally/allied(2), Confidant – 3
4. – 31
5. Trust (5)/Trustworthy(19)/Trusting(6) -30
6. Brother(s) (17)/ brotherly (3)/like a brother (1)/brotherhood(1), Fraternal (2)– 22
7. Funny(18) Humorous/ good humored(2), Comedic/Comedian (2), Hilarious- 23
8. Supportive (15), Helpful(4) – 19
9. Friendly (13), Sociable(2) –15
10. Honest – 14
11. Strong – 11
12. Smart (6), Intelligent (5)– 11

13. Open minded(5), Open(6) – 11
14. Fun/ fun loving, Energetic – 3 – 13
15. Respect (2)/ respectful (6), Admiration(1) – 9
16. Close/ Tight – 9
17. Leader/Leadership/true leader – 7
18. Family/ familial – 6
19. Great (2), Awesome (2) Amazing(1) Outstanding (1) - 6
20. Relaxed/Relaxing/Easy to relax around them, Comfortable(2) – 6
21. Knowledgeable(2), Competent(2), Skilled(1), Deft(1), Experienced (1) - 7
22. Mentor -5
23. Genuine/authentic/Real – 5
24. Understanding - 4
25. Competitive – 4
26. Positive/ positive attitude (1) – 4
27. Professional – 4
28. Strong willed/ Willpowerful – 4
29. Brave (3), Courageous – 4
30. Hardworking - 3
31. Selfless/ self-sacrificing/ selfless service - 3
32. Confident – 3
33. Roommate – 3
34. Calm – 3
35. Spiritual – 3
36. Long lasting, Enduring – 3
37. Forever (2), Never ending – 3
38. Selfishness/ self centered/ selfserving – 3 (N)
39. Honor/ honorable(2), Integrity(1) – 3
40. Co-worker – 2
41. Encouraging – 2
42. Down to earth, Approachable - 2
43. Enjoyable – 2
44. Passionate – 2
45. Battle – 2
46. Team/ Teammate – 2
47. Solid – 2
48. Sincere – 2
49. Happy – 2
50. Sharing, Share Credit – 2
51. Ambitious/Go-getter – 2
52. Violent – 2 (N)
53. Motivated – 1
54. Manly – 1
55. Influential – 1
56. Considerate – 1
57. Personal – 1

58. Talkative – 1
59. Airman – 1
60. Mentee – 1
61. Officer – 1
62. Unspoken – 1
63. Sibling - 1
64. Unquestioning – 1
65. Good – 1
66. Focused – 1
67. Forceful – 1
68. Responsible - 1
69. Believable – 1
70. Felt safe – 1
71. Supervisor – 1
72. In charge – 1
73. Life changing - 1
74. Female – 1
75. Good Hearted – 1
76. Proud - 1
77. Analytical – 1
78. Effective - 1
79. Cool – 1
80. Sisterly – 1
81. Familiar – 1
82. Older – 1
83. Warrior – 1
84. Pleasant – 1
85. Connected – 1
86. Laughter – 1
87. Tall - 1
88. Firm – 1
89. Hick – 1
90. Unjudging – 1
91. Comprehensive – 1
92. Unending – 1
93. Assigned – 1
94. Big hearted – 1
95. Better – 1
96. Enthusiastic – 1
97. Bold – 1
98. Cautious – 1
99. Direction -1
100. Responsibility – 1
101. Methodical – 1
102. Invincible – 1
103. Social – 1

104. Simple – 1
105. True Believer – 1
106. Patriot - 1
107. Relative – 1
108. Similar – 1
109. Philosophical
110. Assertive -1
111. Cooperative – 1
112. Partner-1
113. Counselor – 1
114. Never forget – 1
115. Sensitive -1
116. Available – 1
117. Stand up – 1
118. Religious – 1
119. Ethical – 1
120. Protective – 1
121. Salty – 1
122. Weathered – 1
123. Patient – 1
124. Meaningful-1
125. Instigator – 1
126. Comforting – 1
127. Adventurous – 1
128. Snarky – 1
129. Trying – 1
130. Loveable screwup -1
131. Poised – 1
132. Dark – 1 (PN)
133. Crazy – 1 (PN)
134. Hater -1 (PN)
135. Tense – 1 (PN)
136. Intimidating – 1 (PN)
137. Sex – 1 (PN)
138. Shallow – 1 (PN)
139. Limited – 1 (PN)
140. Arrogant -1 (PN)
141. Junkie – 1 (PN)
142. Blue – 1 (PN)
143. Annoying – 1 (PN)
144. Unintelligent – 1 (PN)
145. Missed – 1 (PN)
146. Deadly – 1 (PN)
147. Tough – 1 (PN)
148. Abstract – 1 (PN)
149. Frustrating – 1 (PN)

- 150. Lazy – 1 (PN)
- 151. Numb -1 (PN)
- 152. Jaded – 1 (PN)
- 153. Overbearing – 1 (PN)
- 154. Touchy – 1 (PN)
- 155. Troubled -1 (N)
- 156. Phony – 1 (N)
- 157. Not loyal – 1 (N)
- 158. Hurtful – 1 (N)
- 159. Inappropriate -1 (N)
- 160. Chaotic – 1 (N)
- 161. Strained – 1 (N)
- 162. Sexist - 1 (N)
- 163. Pig – 1 (N)
- 164. Racist – 1 (N)

- **Relationship with Unit:**

- 145 not scorable due to no adjective, no description.
- 134 have between 1 and 3 responses. Of these:
 - 119 participants (89%) gave 3 scorable responses ,
 - 13 participants (10%) gave 2 scorable responses.
 - 2 (1%) gave 1 scorable response
 - Coded by both raters: 34 (23%)
- Mean Coherence score = 3.42
 - Standard Deviation = 1.10
 - Median = 3.33
 - Mode = 4.00
 - Min = 1.00
 - Max = 7.00
- Number of participants in the secure attachment range (coherence score of 4 or greater) = 52 (39%)
- Was this a unit who helped you cope in the aftermath of your most stressful experience?
 - Yes: 53 (19%)
 - No: 123 (44%)
 - No Answer: 105 (37%)

Adjectives (and their counts) used to describe relationship with Unit

Key: N = Clearly negative adjective; PN = Potentially negative adjective

Relationship with UNIT:

1. Family/ Family-esque/Family oriented/ Dysfunctional Family – 15
2. Loyal/loyalty(6), Dependable(2), Reliable (2), Dedication/dedicated (2), Committed, Devoted(2) – 14
3. Fun (8), Excitement/Exciting(2), Lively(2), Interesting(2) – 14

4. Supportive/support(9), Helpful(5) - 14
5. Untrustworthy/Untrusting (3), Mistrustful – 4, Dishonest(2), Unfair(2), Unreliable(1), Disloyal (1), Hypocritical, disingenuous, fake - 13 (N)
6. Pride/Proud – 9
7. Cohesive (7), Unified (2) - 9
8. Harsh(2), Cruel (1), Demeaning(1), Spiteful (1), Hostile(1), Destructive(1), Abusive (1) – 8 (N)
9. Hardworking/Hardworkers/workers (6), industrious(1) – 7
10. Competent(2), Experience, knowledgeable, Trained, Squared away, Ready - 7
11. Close (5) / Tight-knit(2)– 7
12. Elite/Elitist (4), Best(2) – 6
13. Professional – 6
14. Unorganized/disorganized(2) – 6 (PN)
15. Team/Somewhat a team – 4
16. Selfish (2)/Self-centered/self-absorbed – 4 (PN)
17. Mission/Mission first/ Mission oriented – 4
18. Respect/Respectful – 4
19. Effective – 4
20. Tough – 4
21. Brotherhood(3)/brotherly – 4
22. Nurturing, Compassionate, Caring(2) - 4
23. Historical/history/immortal – 4
24. Courageous/ Brave – 4
25. Capable, self-reliant (1), Self-motivated(1), Efficient(1) - 4
26. Large(2), Big (2) – 4
27. Leaders/leadership/ Leader/leading – 4
28. Stressful/stressor – 4 (PN)
29. Focus(ed) – 3
30. Achievement, Accomplished/accomplishment(2) - 3
31. Young/Younger – 3
32. Unsupportive – 3 (N)
33. Horrible – 3 (N)
34. Uncaring/Careless (2), Uncompassionate (1) – 3 (N)
35. Frustrating – 3 (N)
36. Honor - 2
37. Outstanding - 2
38. Busy – 2
39. Fellowship, Camaraderie – 2
40. Small – 2
41. Rewarding/shared rewards - 2

42. Memories/fond memories – 2
43. Happy -2
44. Truthful/honest – 2
45. Relaxed, comfortable - 2
46. Conflicted/conflicting -2 (PN)
47. Political – 2 (PN)
48. Distant – 2 (PN)
49. Irresponsible, Wasteful – 2 (PN)
50. Naïve, Immature – 2 (PN)
51. Chaotic – 2 (PN)
52. Independent – 2 (PN)
53. Overtasked, Over-worked – 2 (PN)
54. Painful – 2 (N)
55. Dysfunctional – 2 (N)
56. Racist – 2 (N)
57. Incompetent – 2 (N)
58. Trying – 1
59. Structured – 1
60. Friendly - 1
61. Surprising - 1
62. Redemptive - 1
63. Progressive – 1
64. Strong – 1
65. Forever -1
66. Home -1
67. Grunt – 1
68. Challenging – 1
69. Wise - 1
70. Productive – 1
71. Trustworthy(1)
72. Excellent - 1
73. Rugged – 1
74. Flyers – 1
75. Diverse -1
76. Open - 1
77. Long – 1
78. Hard – 1
79. Shared hardships - 1
80. Played hard - 1
81. Adaptability – 1

- 82. Bearing - 1
- 83. Biased – 1
- 84. Learning - 1
- 85. Whole - 1
- 86. Honor -1
- 87. Administrative - 1
- 88. Useful – 1
- 89. Unappreciated - 1
- 90. Similar field – 1
- 91. Smart – 1
- 92. Zany – 1
- 93. Exhausting - 1
- 94. Educational – 1
- 95. Mechanized - 1
- 96. Fiery -1
- 97. Terrible - 1
- 98. Macho - 1
- 99. Stepping-stone - 1
- 100. Self-involved -1
- 101. Okay – 1
- 102. Spirit – 1
- 103. Traditional -1
- 104. Skill-building - 1
- 105. Service – 1
- 106. Soft – 1
- 107. Homogenous - 1
- 108. Machine – 1
- 109. Prestigious – 1
- 110. Connected - 1
- 111. Fighter – 1
- 112. Divided - 1
- 113. Joint – 1
- 114. Different - 1
- 115. Segregated – 1
- 116. Abundant – 1
- 117. Protective - 1
- 118. Confusing – 1
- 119. Non-combat -1
- 120. Combat tested – 1
- 121. Combat approved -1

122. Bittersweet – 1
123. Verbal – 1
124. Trailblazer – 1
125. Understanding - 1
126. Functional – 1
127. Fair -1
128. Tried – 1
129. Priorities - 1
130. Alert – 1
131. Played hard – 1
132. Older - 1
133. Shared hardships - 1
134. Funny - 1
135. Mentor - 1
136. Deployed – 1
137. Assigned -1
138. Warriors -1
139. Identity – 1
140. Different – 1
141. Never stops – 1
142. Evaluator -1
143. Difficulty – 1 (PN)
144. Awkward – 1 (PN)
145. Defective – 1 (PN)
146. Arduous – 1 (PN)
147. Mandatory – 1 (PN)
148. Leadership challenged – 1 (PN)
149. Step-brother – 1 (PN)
150. Wanting -1 (PN)
151. Aloof – 1 (PN)
152. Disappointing – 1 (PN)
153. Misguided – 1 (PN)
154. Hard – 1 (PN)
155. Unrewarding – 1 (PN)
156. Secrets – 1 (PN)
157. Complex – 1 (PN)
158. Fragile – 1 (PN)
159. Leaderless – 1 (PN)
160. Broken – 1 (PN)
161. Boring – 1 (PN)

- 162. Illogical – 1 (PN)
- 163. Narcissistic – 1 (PN)
- 164. Discouraged – 1 (PN)
- 165. Lazy – 1 (PN)
- 166. Ignorant – 1 (PN)
- 167. Misleading – 1 (PN)
- 168. Disjointed -1 (PN)
- 169. Complicated -1 (PN)
- 170. Impersonal – 1 (PN)
- 171. Me -1 (PN)
- 172. Crazy – 1 (PN)
- 173. Turbulent – 1 (PN)
- 174. Desired – 1 (PN)
- 175. Unrealistic – 1 (PN)
- 176. Misunderstood – 1 (PN)
- 177. Unnecessary – 1 (PN)
- 178. Clique-y – 1 (PN)
- 179. Bureaucratic – 1 (PN)
- 180. Senseless – 1 (PN)
- 181. Odd -1 (PN)
- 182. Despair – 1 (N)
- 183. Disrespectful -1 (N)
- 184. Ugly – 1 (N)
- 185. Evil – 1 (N)
- 186. Bitter – 1 (N)
- 187. Violent – 1 (N)
- 188. Hell – 1 (N)
- 189. Pain in the ass – 1 (N)
- 190. HaTEful – 1 (N)

- **Relationship with LDR:**

- 127 not scorable due to no adjective, no description, description does not match adjective.
- 152 have between 1 and 3 coherence scores. Of these:
 - 135 participants (89%) gave 3 scorable responses .
 - 11 participants (7%) gave 2 scorable responses.
 - 6 (4%) gave 1 scorable response
 - Coded by both raters: 38 (25%)
- Mean Coherence score = 3.55
 - Standard Deviation = 0.92
 - Median = 3.50
 - Mode = 3.00

- Min = 1.00
- Max = 6.33
- Number of participants in the secure attachment range (coherence score of 5 or greater) = 57 (34%)
 - Was this a leader who helped you cope in the aftermath of your most stressful experience?
 - Yes: 61 (22%)
 - No: 135 (48%)
 - No Answer: 85 (31%)

Adjectives (and their counts) used to describe relationship with a Leader
Key: N = Clearly negative adjective; PN = Potentially negative adjective

- 1) Supportive/Support(15), Helpful(5), Cooperative(1) – 21
- 2) Respectful (7), Respected/ Respect (6), Polite(1), Noble(1), good(1) Courteous (1) – 16
- 3) Professional/professionalism – 16
- 4) Caring (10), Fatherly/Father(3), Kind(1), Nurturing(1), Compassionate(2), Thoughtful(1), Loving(1), considerate(1), Good-natured(1) – 16
- 5) Honest/honesty /Straight forward/truthful (15)
- 6) Fair/equal opportunity, Just(1), objective(1) – 15
- 7) Reliable(5), Loyal/Loyalty(5), Dependable(3), Always there for me(1) - 14
- 8) Leader (Great Leader) – 13
- 9) Mentor/Mentorship (1) – 13
- 10) Resourceful(4), Competent(4), Knowledgeable(3), Experienced (1), Able(1)- 13
- 11) Friendly/Friend(9), Brother/Brotherly(2), Confidant – 12
- 12) Trust/trusting/trustworthy (10)
- 13) Strong - 9
- 14) Intelligent(5), Smart(2) - 7
- 15) Funny(5), Joker (1) -6
- 16) selfish(3)/self-interested – 5 (PN)
- 17) Dishonest(3), Deceptive(1), Liar(1), Cheater, Fake – 7 (N)
- 18) Confident (3), Self-assured(1), Poised(1) - 5
- 19) Relaxed(1), Comfortable(1), Calm(2) -4
- 20) Example/Positive example(3), Role model(1) – 4
- 21) Energetic, Outgoing, Lively – 3
- 22) Tough – 3
- 23) Close - 3
- 24) Focused – 3
- 25) Supervisor – 3

- 26) Great/Great guy – 3
- 27) Sincere, Straight - 3
- 28) Hard-working(2), Productive – 3
- 29) Defender(2), Advocate – 3
- 30) Understanding(2), Accepting – 3
- 31) Patient – 3
- 32) Ill-informed, Incompetent, Clueless – 3 (PN)
- 33) Non- compassionate, Uncaring(2) – 3 (N)
- 34) Present -2
- 35) Balance/Balanced – 2
- 36) Honorable -2
- 37) Brave – 2
- 38) Teach/Teacher– 2
- 39) Attentive -2
- 40) Intense - 2
- 41) Amazing -2
- 42) Concerned -2
- 43) Relentless, Determined - 2
- 44) Forward thinking – 2
- 45) Powerful – 2
- 46) Modest, Humble - 2
- 47) Family – 2
- 48) Stern, Firm – 2
- 49) Bias/ Biased – 2
- 50) Annoying -2 (PN)
- 51) Arrogant, Egotistical -2 (PN)
- 52) Distant, Aloof – 2 (PN)
- 53) Cowardly, Spineless – 2 (PN)
- 54) Elitist, Privileged -2 (PN)
- 55) Angry – 2 (N)
- 56) Unloyal, capricious -2 (N)
- 57) Judgemental -2 (N)
- 58) Betrayed – 2 (N)
- 59) Aggressive – 2 (N)
- 60) Untrustworthy/untrusting –2 (N)
- 61) Asshole – 2 (N)
- 62) Rude -2 (N)
- 63) Two-faced, Hypocrite -2 (N)
- 64) Inappropriate -2 (N)
- 65) Spiteful, Hateful -2 (N)

- 66) Detailed – 1
- 67) Gritty - 1
- 68) Mission focused – 1
- 69) Empowering – 1
- 70) Open – 1
- 71) Informative -1
- 72) Bold - 1
- 73) Exceptional – 1
- 74) Serious -1
- 75) Invincible -1
- 76) First Class Petty Officer - 1
- 77) Educated -1
- 78) Praising - 1
- 79) Appropriate -1
- 80) Appreciative -1
- 81) Willing – 1
- 82) Lifer -1
- 83) Independent – 1
- 84) Comprehensive -1
- 85) Wise – 1
- 86) Hard -1
- 87) Reciprocal – 1
- 88) Light-hearted – 1
- 89) Chill - 1
- 90) Visionary - 1
- 91) Mutual beneficial - 1
- 92) Prideful – 1
- 93) Interested - 1
- 94) Achievement-oriented -1
- 95) Incredible -1
- 96) Joyful - 1
- 97) Forever – 1
- 98) Positional - 1
- 99) Charismatic - 1
- 100) Opinionated -1
- 101) Enabling – 1
- 102) Machismo -1
- 103) Bureaucrat - 1
- 104) Fearless - 1
- 105) Unmatched - 1

- 106) Pushing – 1
- 107) Soldier's kind a guy
- 108) Warm -1
- 109) Boss – 1
- 110) Safe - 1
- 111) Disciplined – 1
- 112) Logical – 1
- 113) Approachable - 1
- 114) Shared leadership - 1
- 115) Personal – 1
- 116) Expectation – 1
- 117) Average joe - 1
- 118) Inquisitive - 1
- 119) Star tech – 1
- 120) Mind games – 1
- 121) Gentleman – 1
- 122) Perceptive -1
- 123) Best – 1
- 124) Rigid – 1 (PN)
- 125) Disappointed – 1 (PN)
- 126) Commanding – 1 (PN)
- 127) Moronic – 1 (PN)
- 128) Kiss-ass – 1 (PN)
- 129) Self-depricating -1 (PN)
- 130) Headstrong – 1 (PN)
- 131) Sneaky – 1 (PN)
- 132) Guarded – 1 (PN)
- 133) Complicated -1 (PN)
- 134) Crazy -1 (PN)
- 135) Absorbed – 1 (PN)
- 136) Overlooked – 1 (PN)
- 137) Frustrating – 1 (PN)
- 138) Required -1 (PN)
- 139) Lackey -1 (PN)
- 140) Ignored – 1 (N)
- 141) Attitude FUBAR – 1 (N)
- 142) Unfair -1 (N)
- 143) Harassed – 1 (N)
- 144) Power (used for sexual favors) – 1 (N)
- 145) Not supportive -1 (N)

- 146) Worthless -1 (N)
- 147) Shitbag -1 (N)
- 148) Back stabbing – 1 (N)
- 149) Bigot -1 (N)
- 150) Jerk – 1 (N)
- 151) Strained -1 (N)
- 152) Loud – 1 (N)
- 153) Bi Polar -1 (N)
- 154) Jealous -1 (N)
- 155) Difficult – 1 (N)

Positive Adjectives Across All Relationships

SM

1. Loyal/loyalty True, Valiant/ Faithful, Dependable (depended upon)(12), Reliable(7), Dedicated(5) - 55
2. Kind(10), Caring/Cared (10), Compassionate (5) Loving/love(4), Empathetic (2), Thoughtful(2) – 33
3. Trust (5)/Trustworthy(19)/Trusting(6) -30
4. Friend (12)/ Friendship (1)/Best friend (5) best buddies/bosom buddy/buddie(3), Comrades(2)/Comrad/Comraderie, Ally/allied(2) – 28
5. Brother(s) (17)/ brotherly (3)/like a brother (1)/brotherhood(1), Fraternal (2)– 22
6. Funny(18) Humorous/ good humored(2), Comedic/Comedian (2), Hilarious- 23
7. Supportive (15), Helpful(4) – 19
8. Friendly (13), Sociable(2) –15
9. Honest – 14
10. Strong – 11
11. Smart (6), Intelligent (5)– 11
12. Open minded(5), Open(6) – 11
13. Fun/ fun loving – 10

Leader

- 1) Supportive/Support(15), Helpful(5), Cooperative(1) – 21
- 2) Respectful (7), Respected/ Respect (6), Polite(1), Noble(1), good(1) Courteous (1) – 16
- 3) Professional/professionalism – 16
- 4) Caring (10), Fatherly/Father(3), Kind(1), Nurturing(1), Compassionate(2), Thoughtful(1), Loving(1), considerate(1), Good-natured(1) – 16
- 5) Honest/honesty /Straight forward/truthful (15)
- 6) Fair/equal opportunity, Just(1), objective(1) – 15
- 7) Reliable(5), Loyal/Loyalty(5), Dependable(3), Always there for me(1) - 14
- 8) Leader (Great Leader) – 13

- 9) Mentor/Mentorship (1) – 13
- 10) Resourceful(4), Competent(4), Knowledgeable(3), Experienced (1), Able(1)- 13
- 11) Friendly/Friend(9), Brother/Brotherly(2), Confidant – 12
- 12) Fun (8), Excitement/Exciting(2), Lively(2), Interesting(2) – 14
- 13) Trust/trusting/trustworthy (10)

Unit

- 1. Family/ Family-esque/Family oriented/ Dysfunctional Family – 15
- 2. Loyal/loyalty(6), Dependable(2), Reliable (2), Dedication/dedicated (2), Committed, Devoted(2) – 14
- 3. Fun (8), Excitement/Exciting(2), Lively(2), Interesting(2) – 14
- 4. Supportive/support(9), Helpful(5) - 14

Overall

- 1. Loyal/loyalty True, Valiant/ Faithful, Dependable (depended upon)(12), Reliable(9), Dedicated/dedication (7) Dependable(5), Committed, Devoted(2), always there for me (1) – 83
- 2. Supportive/support(39), Helpful(14), cooperative (1) – 54
- 3. Caring/Card (1) - (22), Fatherly/Father(3), Kind(11), Nurturing(2), Compassionate(8), Thoughtful(3), Loving(1), considerate(1), Good-natured(1), Loving/love(4), Empathetic (2),– 53
- 4. Friend (21)/ Friendship (1)/Best friend (5) best buddies/bosom buddy/buddie(3), Comrades(2)/Comrad/Comraderie (2), fellowship, Ally/allied(2), confidant (2) – 43
- 5. Trust/trusting/trustworthy - 41
- 6. Honest/honesty; straightforward/truthful(16) – 31
- 14) Fun (8), Excitement/Exciting(2), Energetic, Outgoing, Lively, (3), Interesting (2), fun loving – 30
- 7. Brother(s) (18)/ brotherly (5)/like a brother (1)/brotherhood(4), Fraternal (2), Brother/Brotherly(2), – 28
- 8. Friendly (15), Sociable(2) –17

Negative Adjectives Across All Relationships

LDR

- 1) selfish(3)/self-interested – 5
- 2) Ill-informed, Incompetent, Clueless – 3
- 3) Non- compassionate, Uncaring(2) - 3
- 4) Untrustworthy/untrusting –2, Dishonest(3), Deceptive(1), Liar(1), Cheater, Fake –

5) Spiteful, Hateful -2

Unit:

1. Incompetent – 2
2. Uncaring/Careless (2), Uncompassionate (1) – 3; Unsupportive (3) - **6**
3. Stressful/stressor – 4
4. Selfish (2)/Self-centered/self-absorbed - 4
5. Harsh(2), Cruel (1), Demeaning(1), Spiteful (1), Hostile(1), Destructive(1), Abusive (1), Violent – 1 – **9**
6. Untrustworthy/Untrusting (3), Mistrustful – 4, Dishonest(2), Unfair(2), Unreliable(1), Disloyal (1), Hypocritical, disingenuous, fake - **13**

SM:

1. Selfishness/ self centered/ selfserving – 3
2. Violent, Hurtful – 3
3. Not loyal – 1

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