Current Adaptive Functioning of Battle of the Bulge Combat Veterans

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Current Adaptive Functioning of Battle of the Bulge Combat Veterans

By

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Submitted in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy Seton Hall University 2004
I would like to thank the Seton Hall faculty for their guidance and encouragement throughout the dissertation process. In addition, I would like to express my gratitude to Dr. Laura Palmer for her advice, mentoring, and support through my four years of academic training.

I would like to thank my family and friends for proofreading this dissertation through revisions. To my parents, Robert and Connie Gates, thank you for your lifelong guidance, support, and love. Without both of you this achievement would not have been possible. Finally, to the Veterans of the Battle of the Bulge organization and especially to Jim Cullen the Northern New Jersey Veterans of the Battle of the Bulge chapter president, I am forever grateful.
Dedication

This dissertation is dedicated to those brave and steadfast soldiers who during the cold winter of December 1944 withstood Hitler's final organized attempt to break the Allied advance.
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In recent years a great deal of attention has been focused on World War II and the brave men and women who served our country during that conflict. In the late 1940s and 1950s the World War II veterans were hailed as heroes who had saved the world from the evils of fascism. There was nothing more patriotic than a boy who would grow up and fight the communists like his father had fought the Germans or the Japanese. Many young Americans went off to fight the Vietnamese years later in the 1960s and 1970s. After the Vietnam War, the United States tried to forget war for a while, including World War II. The Persian Gulf War in 1991, coupled with the 50th anniversary of World War II, propelled the veterans back into the spotlight. Veterans are currently featured in many news media with the War on Terror and the crisis in Iraq. Again, it seems as if the topic of veterans and the effects of combat trauma is once again of interest to the public. This interest in the veterans of World War II was evident in recent Hollywood films which attempt to capture the horrors of war. Saving Private Ryan (Curtis, 1998) and Pearl Harbor (Bay, 2001) are two recent examples of films which have been well received by the public. The men who fought in World War II are now in their 80s and 90s and are confronted with a host of physical and mental insults that could prove just as challenging as their early combat exposure.

While the American public is once again interested in the armed forces of the United States, there is a concomitant increase in the number of older adults. Projections show that by 2030 the aging population will reach approximately 70 million elderly people. Current medical advances have led to a longer life span for many older adults, a
Many of these veterans experienced combat trauma in their early adult years while fighting for America. Averill & Beck (2000) found numerous studies advancing the notion that early trauma experienced in young adulthood can affect one’s well being later in life. It is quite predictable that an elderly veteran who experienced trauma severe enough to cause marked distress when young will have residual mental effects well into his elderly years. As Holocaust and POW studies have shown, the severe trauma in these horrible situations has long-lasting effects (Nadler & Ben-Shushan, 1989). Depending on the degree of war-zone stressor, combat veterans also seem to consistently suffer long-term psychological damage into late life. However, is this early combat trauma exacerbating the adjustment to the stressors one experiences as an older adult or are these late life developmental stressors traumatic enough on their own? There is conflicting research, as some studies indicate, that by the time one reaches his or her elder years, defense mechanisms such as alexithymia and/or a failing memory seem to lessen the residual effects of such trauma (Norris, 1992). Alexithymia is a manifestation of affective or psychological numbing when relating intense or upsetting events (Krystal & Krystal, 1988).

The largest groups of traumatized individuals who have been scrutinized the most closely have been Vietnam veterans. At the onset of World War I, there was no general consensus as to the etiology of a new disorder seen on the battlefield. This new malady was deemed “shell shock” by a British Army doctor who believed that this debilitating disorder was a result of exploding artillery shells creating nerve damage (Shephard, 2001). Although later discovered to be a psychological reaction to extreme stress, the name stuck. Various methods for treating “shell shock” in World War I ranged from...
applications of electric current to hypnosis. By World War II, the term battle fatigue was utilized by the military and it was agreed upon to be psychological in nature (Grossman, 1995). A few pioneering studies were conducted on veterans such as the 1946 report by Swank and Marchland, however, not to the extent that have been conducted on Vietnam veterans. By the time that America entered Vietnam, Posttraumatic Stress Disorder was a psychiatric diagnosis and researchers were eager to find it. The American Psychiatric Association defines Posttraumatic Stress Disorder as an anxiety disorder observed in persons who have been exposed to an extreme stressor that evokes feelings of “intense fear, helplessness, or horror” (American Psychiatric Association, 1994, p.428). Posttraumatic Stress Disorder is brought about by exposure to extraordinarily stressful life events such as combat. The cardinal characteristics of PTSD have remained fairly consistent since its introduction to the Diagnostic and Statistical Manual of Mental Disorders in 1980. An addition to the original criteria was provided in Fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994, p. 428) and is the following: “persons response involved intense fear, helplessness, and horror.” The symptoms of PTSD include re-experiencing the event through frightening dreams and intrusive recollections, avoidance of circumstances that might trigger a re-experiencing episode, emotional numbing and retreat from intimate relationships, and increased arousal (King, King, Foy, Keane, & Fairbank, 1998). During and after the Vietnam War, researchers were conducting countless studies on this population to look at the current prevalence of PTSD. Some research conducted on this population has shown that many Vietnam Veterans who were exposed to combat trauma have experienced problems with mental health later in life (Fontana &
Rosenheck, 1993). Much of the existing literature on early trauma is based on this sample and is not specific to World War II Army Infantry veterans. As stated previously, many research studies do show a link between trauma experienced in young adulthood and psychological distress years later. Hence, it is possible that an individual who experiences trauma that is severe enough to cause marked distress will have residual mental effects well into his/her elderly years. Erikson and Erikson (1997) introduced the role of developmental challenges in critical transitional periods over the life span that could lead to distress or continued positive development. Depending on the individual’s current resources, current stressors, and previous trauma experiences one could be more vulnerable later in life (Brewin, Andrews, & Valentine, 2000). This effect of early trauma on later life functioning has been shown in studies comparing Holocaust survivors, POWs, soldiers with different occupations in different wars, and political prisoners who displayed different effects years later. In the same vein, it would follow that the experiences of World War II infantry veterans from the Battle of the Bulge would be similar to the aforementioned studies. However, at this time, there is no research that incorporates the experiences of World War II veterans of a specific battle to current well-being in the elderly.

Additionally, there are also no studies which attempt to tease out if the reactions to current stressors that an elderly veteran experiences are affected by combat trauma. The relationship between trauma specifically caused by combat and an elderly individual’s current functioning needs to be examined. This could have serious ramifications for counseling/clinical psychologists dealing with the large number of individuals who were involved in the combat as young men and are now elderly men.
experiencing the transition stressors of aging. The number of these individuals is quite large as is evidenced by the membership numbers in national combat veterans organizations. The similarity of relationships between traumatic exposure and symptoms across wars testifies to the generality of these experiences (Fontana & Rosenheck, 1993).

Veterans of the Battle of the Bulge, as a group, were exposed to the same or similar experiences in combat. These experiences are similar to those of other combat veterans; however, by focusing on one group it is possible to look at specific and shared trauma experiences. Given their combat experiences, these men could experience a new form of stressor related to continuous long-term exposures later in life. Elderly Battle of the Bulge veterans might experience a new set of traumatic events such as the following: having experienced many losses, some of distant relationships and some of closer and more personal relationships—parents, partners, and possibly children. These veterans must cope with these losses and the many other hurdles such as loss of capacities and other disintegration. Erikson notes that in one's eighties and nineties the focus may be completely devoted to his/her aging body and concerns of daily living. For a counselor, if these new stressors create more distress to a combat veteran than early war experiences, then this is where the focus should be. There might be no need to resurface old painful memories for these clients. Or, it might be the case that the experiences that one encountered during warfare are very relevant to one's current adaptive adjustment to old age. In Erikson's (1980) Stage 8, ego integrity vs. despair, which involves a life review, maintaining ego integrity by owning one's past history war reminiscence, is appropriate. However, in Erikson's last work, *The Life Cycle Completed*, a Stage 9 was introduced as a further stage to ego integrity vs. despair. The argument is advanced that there is also
Stage 9 which is concerned with a concept of gerotranscendence which is an increase in current life satisfaction which is built on Stage 8. Joan Erikson (1997) states that growing old is a great privilege. She adds that it allows feedback on a long life that one can relive in retrospect, and with the years, retrospect becomes more inclusive; scenes and action become more real and present.

So, for the elderly veteran who is in his eighties or nineties, there might need to be a shift in a counseling or clinical psychologist’s focus based on the specific battle and military branch one fought in and how he is reacting to current stressors. To focus on one’s traumatic experiences in the Ardennes Forest in France in 1944 might be appropriate for some elderly Battle of the Bulge veterans, but it seems as if it could be important to determine if this would indeed serve the client.

History of the Battle of the Bulge

In August of 1944, after 5 years of war, the German Army had lost 3,260,000 soldiers killed, wounded, or missing. Some of their finest units had been disintegrated to non-existence while fighting the Allies on all sides. The Luftwaffe had been overwhelmed and through the Allied air superiority, German cities were bombed into ruin, and industries, communications and transport were under constant aerial attack. Hitler’s army was retreating on all fronts; however, he decided to engage in one last desperate throw of the dice, a massive counterattack in the West (Severéïd, 1989). This counterattack’s goal was to seize the Allied held port at Antwerp by attacking the Americans in the Ardennes in Belgium. If successful, this would split the American and British armies in two and the Germans would have seized a vast chunk of Belgium and Luxembourg. The Allies ignored warnings of an impending attack arguing that the
German army was almost defeated and unable to mount such a bold attack. Unfortunately, the Americans were using the Ardennes Forest as a rest area for green troops to become acclimated to combat. It was supposedly a “safe zone.” However, on December 16, 1944, more than 250,000 Germans attacked 83,000 American troops deployed thinly across an 85-mile Ardennes front line. For the inexperienced American soldiers this attack led by German heavy tanks and aggressive veteran soldiers was devastating. According to Sevareid (1989), The Americans were confused, disorganized, and unprepared. These soldiers were subjected to all of the horrors of war: Artillery shells called “tree bursts” which exploded before hitting the ground rained tree splinters down on the men, heavy German tanks that were unrivaled by the American armor, poor weather conditions resulting lack of aerial support and re-supply, and all of the other modern weapons carried and used by the feared Waffen-SS soldiers with plenty of combat experience. In addition, this was the battle where a German SS unit massacred a group of 120 American POWs at Malmedy. News of this incident spread quickly and thousands of soldiers vowed never to surrender to the Germans (Grossman, 1995).

Additionally, 150 English-speaking Germans dressed in American uniforms infiltrated the Allied lines and wreaked havoc and fear amongst the G.I.s. This was a panzer brigade, led by the decorated Lieutenant Colonel Otto Skorzeny who dressed his commandos in captured American uniforms and equipped them with captured American tanks, arms, and identification. They succeeded in seizing several bridges, committing countless acts of sabotage and creating consternation in the American rear areas. Concomitant with all of this, the American army infantry soldier fighting in the Battle of the Bulge was under a constant threat of being killed or injured as there were no “safe
zones" whatsoever. The attack coupled with an inability to receive supplies led to lack of sleep, lack of food, and exhaustion. The aggregation of all of these stressors provides the necessary ingredients for psychological distress (Shay, 1994).

The Psychological Effects of War

According to Gabriel (1987), the American soldier has a much greater chance of becoming a psychiatric casualty due to the stresses of military life than the fear of being killed by enemy fire. In World War II, 504,000 soldiers were sent back from the fighting due to psychological distress (Shephard, 2001). There were almost more psychiatric casualties being discharged from the army than new recruits coming in. A study by Swank and Marchand (1946) reported that after 68 days of continuous combat, 98% of all soldiers would become some sort of psychiatric casualty. Additionally, this 1946 report noted that the remaining 2% of the soldiers has a predisposition for "aggressive psychopathic personalities." The British rotated men out of combat every 12 days for a 4 day rest. As a result, they were able to reduce their number of psychiatric casualties. However, the American military policy was to keep soldiers in combat for 80 days before rotating them out. In his book On Killing, Grossman (1995) noted that spending months of continuous exposure to combat trauma is a relatively new phenomenon. He stated that the years of long sieges of previous centuries provide ample time for rest from combat due to the limitations of artillery and tactics. The actual battles lasted no longer than a few hours. The 20th century has made it possible to sustain combat indefinitely through technology. The result is an overload to an individual's psychological capacity to endure this amount of trauma (Grossman, 1995).
Fatigue is one of the first psychological effects of constant combat. This is the result of physical and mental exhaustion. A soldier who is experiencing fatigue will lose all interest in socializing with others and will avoid any activity that involves physical or mental effort. Soldiers will typically have outbursts of crying or fits of extreme anxiety or terror. Somatic symptoms such as hypersensitivity to audio or visual stimuli, increased sweating, and palpitations are also noted. An individual who remains in combat under these conditions is likely to experience further psychological damage (Gabriel, 1987).

This mental fatigue can quickly convert into confused states or dissociation. A soldier who has not been evacuated and allowed to rest might not be able to discern who he is or where he is. This individual will mentally remove him/herself from the environment as a way to deal with it (Marlow, 2001). Symptoms include delirium, dissociation, and bi-polar mood swings. Ganzler syndrome, which is marked by a soldier's making jokes or acting silly in an attempt to allay the terror of combat, is also seen. Some soldiers will walk around a battlefield aimlessly with no ability to sense danger or otherwise function at all (Gabriel, 1987). An individual can block out many of the horrible events that he or she experiences. A soldier might have convulsive attacks in which he/she rolls into the fetal position and shakes violently. Paralysis of the arm used to pull the trigger has also been noted in many soldiers in wartime. This is a somatic symptom in which the mind is attempting to escape the trauma experienced in war.

Anxiety in which the soldier cannot sleep and has nightmares is also common among soldiers in combat. Fears of dying or letting down comrades are often the subject of these nightmares. Sometimes this anxiety is accompanied by shortness of breath,
weakness, pain, blurred vision, giddiness, vasomotor abnormalities, and fainting (Grossman, 1995). Obsessive and compulsive behaviors in soldiers where certain actions or things are fixated upon are also seen in combat. Finally, depression and rage are two other reactions to a daily exposure to horrible events (Shay, 1994). Overall, it seems as if all soldiers can be affected psychologically by a few months of combat. There are many ways in which the mind will attempt to remove itself from the terror around it. This results in a variety of psychopathologies in the soldier.

The Role of Fear in Combat

Grossman (1995) found that resistance to overt aggressive confrontation in addition to fear of death and injury is responsible for much of the trauma and stress in combat. He adds that the classic notion of fear of death and injury has been incorrectly seen as the sole cause of psychological trauma. He points to the bombing of London in 1940 in which the Germans attempted to conquer England through repeated bombing raids. The carnage was the same as any soldier would experience on the battlefield; however, there were no incidents of mass psychiatric casualties as a result. It was hypothesized by Grossman (1995) that the fear of death and injury is only a small portion of the cause of psychological damage done to individuals. He advances the notion that being expected to kill and the stress of looking potential killers in the face is one of the main components of fear that is linked to trauma.

The Role of Exhaustion in Combat

In combat, the soldier's sympathetic nervous system's “fight-or-flight-response” mobilizes all of his available energy for survival. This has the unpleasant effect of temporarily shutting down nonessential activities such as digestion, bladder control, and
sphincter control. When the demands of the parasympathetic nervous system return, a powerful desire to rest and sleep come over the soldier. This puts him through a surge of emotions in a short period of time which range from surges of adrenaline to emotional exhaustion. Added to the lack of sleep, lack of food, and the impact of the elements, the soldier is overcome by exhaustion. This carries a damaging weight which, when coupled with fear, adds to his burgeoning psychological distress (Shephard, 2001).

The Role of the Army Infantryman in the Battle of the Bulge

The infantryman is the backbone of the army whose main purpose is to fight the enemy. This fighting is often man-to-man and can occur under the harshest of conditions. Besides being involved in the most fighting, the infantrymen, or "grunts," lug all of their equipment-combat gear, weapons, tools, and extra clothing-on their persons, whereas a mechanized or armored force can ride into battle and attack the enemy with technology. Much of this fighting can degenerate into hand-to-hand combat which is among the most brutal that can be imagined. The infantryman's safety is in constant jeopardy and he is often involved in witnessing horrific events on a daily basis (Shay, 1994). This is added to a lack of sleep, food, and energy while carrying up to 80 pounds of equipment.

Combat Stressors in the Battle of the Bulge

World War I was called the "war to end all wars," due to the brutal way in which technology enabled soldiers to kill one another. Many individuals felt that after the overwhelming carnage inflicted by new weapons such as chlorine and mustard gas, the machine gun, and improved artillery, that there would never be another war. However, when Hitler's Third Reich invaded Poland in September of 1939, war had occurred again.
This war was, in fact, no less brutal than the First World War, minus the use of gas as a weapon. World War II introduced the concept of blitzkrieg or “lightning war” in which air power and ground forces would attack the enemy simultaneously with devastating effects (Sevareid, 1989). The airplanes, armored vehicles, and small arms had been greatly improved since the end of World War I in 1918. This allowed a soldier to have greater killing ability, yet he was subjected to these weapons as well. Soldiers were no longer engaging one another in conventional “head-on tactics” as had been the case in World War I trench warfare. Now, a soldier could be killed behind the lines by a sniper or a mine. Medical Aid stations were also under artillery fire, often making the front lines safer than the rear areas. This put the World War II soldier in a position in which he was constantly being threatened by a variety of powerful weapons (Shephard, 2001). There was also more individual firepower in the hands of soldiers than in previous wars. Weapons such as the flamethrower, the machine gun, and German mines designed to maim and not kill were a constant torment to these soldiers. The carnage in certain operations such as the Battle of the Bulge was horrific (Sevareid, 1989). World War I was said to be the “war to end all wars,” yet by the end of World War II it was evident that this was far from being true.

Treatment for Psychological Trauma in World War II

In World War II, the military did not simply want its mentally ill soldiers to return to a normal life; it wanted them to return to combat. According to Gabriel (1987), the military wanted to get psychologically injured soldiers off of the battlefield as their mere presence could damage the morale of the troops. However, the military has the problem of keeping other soldiers in combat as they might see feigning psychological illness as a
way out. The solution that most armies came up with during World War II was to rotate troops off of the battlefield after a period of fighting. In terms of those soldiers who still required psychological care, it was the practice in the army to treat the soldier as near to the fighting as possible, all the while keeping in contact with the leadership to report when the soldier was returning to fight (Marlow, 2001). This was a way to give the soldier some rest while showing other soldiers that he would indeed be back to fight. This psychological illness was called battle fatigue in World War II and there were no psychotropic medications to aid in the healing process.

Considerations in Overcoming Combat Trauma

In recent years, numerous studies have been directed at demonstrating the often devastating effects of life-threatening trauma exposure to combat veterans. The findings from the considerable body of research have demonstrated a relationship between trauma exposure and the occurrence of Posttraumatic Stress Disorder. However, not all individuals who have experienced life-threatening trauma exposure or potentially traumatic situations experience PTSD or continue to have enduring symptoms of it over long periods of time (Benotsch et al., 2000). Specifically, the trauma of combat experiences does not necessarily lead to psychopathology.

Benotsch (2000) found that there is a relationship between a veteran’s resources and coping styles and the development of related psychopathology. This study reported nonavoident coping styles were associated with better psychological functioning and fewer stress-related symptoms in Vietnam combat veterans assessed more than 15 years after exposure to wartime trauma. In a longitudinal study, Solomon, Mikulincer, and Avitzur (1998) looked at Israeli soldiers who have experienced a combat stress reaction.
during the Lebanon War. The results of this study found that social support and coping styles were effective in decreasing symptoms of PTSD.

Norris (1992) researched the frequency and impact of 10 potentially traumatic events in a sample of 1,000 adults. The sample was divided by race and among younger, middle-aged, and older adults. The subjects were asked about their exposure to the 10 events over their lifetime. The 10 events varied from tragic death exposure to sexual assault. The author investigated the degree to which the event caused the subject a perceived level of stress. Of the 1,000 participants, more than 200 had experienced some type of violent encounter in the past year alone. It was also noted in this study that present levels of perceived stress were significantly higher among persons with previous traumatic experiences than among persons who had not experienced traumatic events. This could be the case for an elderly veteran of the Battle of the Bulge confronted with current stressors.

This article pointed to psychosocial factors, such as stability in lifestyle, personality, and environment, to possibly explain why the same person who experienced trauma in the past is experiencing high stress currently. The difficulty in specifically indicating the exact cause of the subject's stress was also mentioned. The author stated that the stress could be current stress as a result of interpersonal problems or financial problems, and the result of a traumatic event. In the case of the Battle of the Bulge sample, the current stressors of aging could also be a primary cause. The findings also demonstrated that older people did not have higher lifetime frequencies of traumatic events than younger or middle-aged adults. Additionally, the author stated that older adults might have difficulty reporting traumatic events. Long-term memory deficits or
the determination that these events are too insignificant to mention might also lead to reporting problems. However, when traumatic exposure was mentioned, older people showed low rates of PTSD. This may show resilience to stress that individuals build over time or a greater passage of time since the events occurred. For the elderly veteran of the Battle of the Bulge, resilience to stress might be based on defense mechanisms such as alexithymia (Krystal & Krystal, 1988), or lack of report due to a decline in memory.

Factors Other Than War Trauma Leading to Current Stress

An investigation of pre-trauma gender and pre-trauma risk factors, war zone-stressors, and post-trauma resiliency was conducted by King et al. (1998) on 432 female Vietnam veterans and 1,200 male Vietnam veterans. All of the participants had served in the Vietnam Theater of operations sometime between August 1964 and March 1975. An extended interview and self-report session was completed with each veteran. The topics covered in these interviews were prewar background and functioning, military and war zone experiences, and postwar life events and mental health status. The results of the study showed that six variables were directly linked to PTSD for women: the prewar risk factor of early trauma history, the war-zone stressors of atrocities such as abusive violence and perceive threat, and the post-war resilience-recovery variables of additional stressful life events, resoluteness, and functional social support. These factors accounted for 72% of the PTSD variance in women. Of the male veterans, the same PTSD variables that women showed were factors along with age at entry to Vietnam, harsh war-zone environment, and the resilience-recovery variable of structural social support. For both genders, early trauma history was directly linked to post-war stress. In male veterans, dysfunctional and disorganized family systems and lack of social support seemed to
compromise mental healing long after the war. The women, the authors speculate, may have been better at utilizing interpersonal and intrapersonal resources in times of need than the men. However, it is noted that men’s war-zone experiences were likely more life threatening than the experience of female veterans so coping might be more difficult (King et al., 1998). Pre-war life circumstances (socioeconomic status and family instability) added to war-zone stressors seemed to place veterans at a greater disadvantage for post-war symptomatology. Conversely, in both genders social support and interpersonal skills were extremely important in the recovery environment. However, the more war-zone stressors that an individual experienced, the less likely he or she was to maintain hardiness and social support. Overall, the authors found that multiple stressful events over an extended period of time may drive current symptomatology and must be looked at rather than simply the war trauma.

Statement of the Problem

There has been increasing recognition that the aggregation of combat stressors such as exposure to brutal human death contributes significantly to posttraumatic psychological symptoms and disorders. Sutker, Uddo, Braily, Vasterling, & Errera (1993) found that the type of trauma, in addition to the amount of stress, influenced the severity of posttraumatic stress symptoms and their impact in life functioning. Less work, however, has been devoted to studying the emotional and behavioral effects of war-zone experiences over half a century after a conflict. To what extent negative psychological sequelae may be found among veterans of the Battle of the Bulge in World War II assigned to combat duties is unknown.
King et al. (1998) reported that exposure to extreme psychological stress appears to have a direct link with reactions to postwar negative life events. A study conducted in 1989 which compared Holocaust survivors to general respondents revealed that many survivors who concentrated on rebuilding their lives and families after the war did not direct any energy towards psychological repair. The result for some of these individuals who had attempted to put their trauma in the past was anxiety and anger resurfacing years later (Nadler & Ben-Shushan, 1989). This is one of many studies which illustrates that early trauma experienced in young adulthood can affect one's reaction to stressors later in life. Hence, it is predictable that an individual who experiences combat trauma in young adulthood will have residual distress that could surface when exposed to a new stressor later in life.

Erikson and Erikson (1997) saw aging in the last stages of life as a developmental period in which one is exposed to stressors such as declines in physical and cognitive functioning. Additionally, the loss of loved ones, financial problems, the need for more outside assistance, and isolation can make this transition even more difficult. At the time of this work it has yet to be determined if Battle of the Bulge combat veterans would have delayed effects of traumatic stress. Concomitant with this is the need to assess the current emotional and behavioral states of these veterans. It is unknown if this population will have more traumatic symptomatology than a same-age respondent group who would also be dealing with the transition stressors of aging. The current research is conflicting as to the long-term sequelae of combat trauma. Some of the cited studies show that elderly individuals become more resilient over time or are able to distance themselves from a negative event that occurred over half a century ago. Conversely, a
host of other studies have shown that early combat trauma does indeed have lasting effects many years later. This research will attempt to add to the body of knowledge of combat trauma in order to clarify this discrepancy in the literature.

**Research Questions**

1. Does exposure to combat trauma in the Battle of the Bulge predict Posttraumatic Stress Disorder symptoms in a sample of veterans currently?
2. Will Battle of the Bulge veterans show greater trauma symptomatology than same age non-veterans?

**Research Hypotheses**

The research hypotheses in this study were based on several theories in the literature which account for delayed-onset PTSD in later life. These theories are based on evidence that older adults may experience a reduction in physical and mental resilience over time (Fontana & Rosenheck, 1993). Concomitant with this is the occurrence of transitional stressors late in life which may precipitate delayed onset PTSD in Battle of the Bulge veterans. The following are the research hypotheses in the current study:

1. Battle of the Bulge veterans’ exposure to combat trauma will predict PTSD symptoms currently.
2. The Battle of the Bulge combat veterans will show more trauma symptomatology than the non-veteran group regardless of the amount of current life stressors they report.
3. Battle of the Bulge combat veterans will show more trauma symptomatology than non-veterans regardless of the amount of social support they report.
Definition of Terms

In this section the terms posttraumatic symptomatology, traumatic event, life stressor, and social resources will be introduced and defined. These terms will be found throughout this study and will be used as defined in the following pages.

Posttraumatic Symptomatology

The term posttraumatic symptomatology is used to refer to a the combination of symptoms that are often encountered by those experiencing significant psychological trauma. Briere (1997) noted that traumatic symptoms usually fall into main categories of distress: dysphoric mood and posttraumatic stress. In a study of the effects of torture and maltreatment, anxious arousal, depression, and anger were determined to make up one of the categories of trauma-related symptoms (Engdahl & Eberly, 1990). Hobfoll et al. (1991) also identified factors such as uncontrolled or frequent crying and other extreme reactions to stressful events that would normally be handled more calmly: sleep problems, stress-related physical illness (e.g., headaches, gastrointestinal disorder, upper and lower back pain, poor stamina or resistance); and depression, anxiety, and anger. Furthermore, Wolfe, Erickson, Sharkansky, King, & King (1999) found that intrusive experiences, defensive avoidance, and dissociation reflect the intrusive and avoidant components of Posttraumatic Stress Disorder. Ohlde, Schauer, Garfield, & Patterson (1987) added the additional symptoms of helplessness, mistrust, impulsivity, and substance abuse to the aforementioned traumatic symptoms mentioned. One’s experience with these symptoms can range from mild to severe. Those individuals who react in a more severe manner are likely to meet the criteria for Posttraumatic Stress Disorder (Benotsch et al., 2000).
Traumatic Event

The American Psychiatric Association (1994) defines a traumatic event as one that would be distressing to almost anyone and would be considered outside of the range of typical human experience. Breslau and Davis (1987) argued that what is important is whether the event is shocking to the individual regardless of form. These investigators determined that a traumatic event should be defined as any event that results in traumatic stress symptoms. For research purposes, Norris (1992) proposed a definition of traumatic events as the aggregation of events involving violent encounters with nature, technology, or humankind. In this definition, a violent event was one that is marked by sudden or extreme force and involves an external agent. From this perspective, a traumatic event would be a grouping of traumatic experiences which are put together because they share common properties (Norris, 1992). For the purposes of this current research a traumatic event will be any event that is capable of producing extreme fear or aversion. In terms of combat, this could include any number of negative experiences. This could also include current negative life stressors which result in traumatic symptomatology.

Life Stressor

Life stressors affect the process of recovery and relapse in clinical groups such as depressed and substance dependence patients. These life events are also related to psychosocial functioning in those suffering from medical disorders and healthy adults. Holahan and Moos (1991) compiled a list of life stressors which are: physical health status, living conditions, finances, interpersonal problems with spouse or partner, interpersonal problems with children, and interpersonal stressors related to friends or relatives. These stressors have been shown to play a causal role in maintaining
psychological health. These same authors conducted a study on addictive disorders and saw a considerable number of connections between effective patient recovery and current life context factors. Holahan (1990) conducted a study of 400 community-resident adults and found that life context factors do indeed contribute to one's health and psychological well-being. Finally, life stressors were related to patient functioning in a four-year course study of unipolar depression. The findings imply that life stressors such as medical conditions and family conflict are important risk factors that predict poorer long-term outcomes of psychological disorders (Swindle, Cronkite, & Moos, 1989).

Social Resources

Valentiner, Holahan, & Moos, (1994) noted that social resources are stable life context factors which influence the appraisal of life events and the choice and effectiveness of coping strategies. Examples of these factors are as follows: support and empathy in relationship with spouse or partner; support and empathy in relationships with children; support and empathy in relationships with mother, father, and other relatives; support and empathy in relationships with friends; number of close friends, and membership in social groups (Moos, 1985). With uncontrollable negative life stressors, social support has been shown to be directly related to successful coping strategies (Holahan & Moos, 1990). Social support after a stressful event is often associated with a more positive outcome in trauma victims (Briere, 1997). In a study of a large sample of Vietnam veterans, it was revealed that social support was a salient posttrauma resilience recovery variable. Some studies of trauma have shown that the trauma victim's overall level of social resources after a traumatic event is an important factor to his or her trauma
response. Hobfoll (1988) also indicated that a depletion of social resources after a trauma can lead one to be more vulnerable to future stressors.

Procidano and Heller (1983) defined perceived social support as the extent to which an individual believes that his or her needs for support, information, and feedback are fulfilled. This is one element in an individual’s appraisal of, and subsequent coping with, stress. Perception of social support is influenced by within-person factors such as internal traits and changes in attitude and mood. Both of these may influence the perception of whether support is available or has been provided. According to Procidano and Heller (1983) there needs to be a distinction made between perceived family social support and perceived friend social support. Different populations may rely on or benefit from friend or family support to different extents. At a given time, there might be more change in one’s friend network (e.g., through moving for school or employment) or family network (e.g., through death). Friend relationships are often of shorter duration than family relationships. It is also important to consider that one’s social competence probably plays a role in maintaining a support system (Heller, 1979).

Significance of the Research

The number of men who came to military service in their youth in the 20th and 21st centuries is staggering. In World War II it is estimated that of those born from 1918 to 1923, up to four of five American men were mobilized into the armed forces. Of this number, a fourth of the army recruits were exposed to extraordinary dangers, traumas, and pressures of front-line combat (Elder, Shanahan, & Clip, 1994). More recently, there were 3.4 million men and women who served in the Vietnam War, 700,000 men and women deployed to the Gulf region in the 1990-1991 Gulf War, 3,310 soldiers who
participated in the 1992-1994 Somalia mission, and more than 250,000 service personnel in Operation Iraqi Freedom. Many of these personnel have experienced combat which has been shown to be related to a greater risk of negative trajectories on mental health. However, there is little current research to indicate how this trajectory will appear well in one's elderly years. As the research seems to indicate, current stressors, and not just combat trauma, can affect current adaptive functioning. By controlling for exposure variables by looking at just Battle of the Bulge veterans, the long-term effects of trauma symptomatology can be revealed which will inform the treatment of all of those who have served and have not yet entered their elderly years. This study will attempt to show that there will be more traumatic symptomatology in the Battle of the Bulge veteran group than the control group of non-veterans in response to current life stressors. The transition life stressors involved in aging could exacerbate latent trauma symptomatology for elderly veterans of the Battle of the Bulge. Those veterans with depleted social resources concomitant with a high number of life stressors might display more traumatic symptomatology than non-veterans with similar situations. This study would lend itself to a better understanding of effective combat trauma recovery and the associated factors related to distress in combat veterans. This would better inform those clinicians treating veterans of past wars and those veterans yet to come.
One purpose of this research was to investigate the relationship between a veteran's early combat exposure in the Battle of the Bulge in World War II and current traumatic symptomatology. Although all wars have been stressful for combatants, certain characteristics of World War II, and more specifically the Battle of the Bulge, made it an extremely stressful event. This section is designed to give an overview of the many specific traumatic experiences that the young American soldier was subjected to in the Battle of the Bulge in 1944. In reviewing these events, the life-course implications of drastic change for adult development and health should become more salient.

In 1939 there were still 40,000 British soldiers receiving pensions for mental disorders derived from World War I, while 80,000 cases had been settled (Shepard, 2001). World War I had proved to the world that while some men were more vulnerable to symptoms of combat stress than others, all men were vulnerable. The vast number and associated financial cost of residual "combat neurosis" cases led the British government to address the issue again in the late 1930s on the brink of war. The American military had also suffered catastrophic numbers of combat casualties due to combat or battle fatigue. The taxpayers of the United States spent over 946 million dollars on the treatment of their neuropsychiatric casualties from World War I. It was estimated that every American psychiatric case had cost the taxpayer $30,000. The American nation went into World War II with the belief that the screening and selection of new recruits would be enough to reduce the burden of psychological casualties (Marlowe, 2001). The Veteran's Administration further saw selection as a way to keep combat units efficient by
eliminating those soldiers with “war neurosis.” Under the control of the Selective Service System, 1,681,000 men were rejected and excluded from the draft for emotional, mental, or educational disorders or deficiencies. Concomitant with this was the ongoing effort to weed out those men who were considered mentally unfit for service. However, this screening was the only preparation that the United States had made in advance of World War II. There was no attempt by the British during the First World War to screen recruits and only the obviously mentally unstable individuals were denied entrance. As with the Americans, the British also felt that this was where the attention needed to be placed during World War II. The British first used intelligence testing to eliminate unsuitable men by 1940. After June 1942, all recruits to the British Army were given intelligence and aptitude tests during their 6 weeks of basic training. Based on the results of these tests, recruits would be sent for specific branch training. However, the British were not as convinced of the use of selection to eliminate soldiers, but preferred to merely reallocate them to other units (Shephard, 2001).

**Psychiatry in World War II**

One of the factors which predisposed World War II veterans to Posttraumatic Stress Disorder was a lack of understanding of how to treat soldiers who were not suffering from a physiological malady. This lack of understanding contributed to a host of inappropriate methods for dealing with the psychological effects of combat trauma. Soldiers of this era were not debriefed after experiencing critical incidents nor were they encouraged to seek follow-up psychological treatment after the war (Shephard, 2001). To understand why this was the case for the American soldier in the 1940s it is necessary to look at psychiatry as a whole during this period.
The United States Army in the late 1930s and early 1940s had an inadequate psychological screening method for new recruits. However, despite criticism from the psychologists of the time, the army decided that the process was effective enough. If the utilized screening process was valid, then the American Army should not have suffered serious psychiatric casualties (Gabriel, 1987). The selection process for the American military obviously had its limitations. During World War II more than 800,000 men were classified as unfit for military service due to psychiatric reasons. There were an additional 504,000 men who suffered from “psychiatric collapse” during the war. It is estimated that at one point in World War II psychiatric casualties were discharged from service faster than new recruits were drafted in (Grossman, 1995). Of the 800,000 U.S. ground troop who saw direct combat, 37.5% became serious psychiatric casualties. During World War II the Americans suffered a casualty rate of 36 men per thousand. In World War I this number was 9 per thousand. However, Gabriel (1987) attributed this to a more lenient mental diagnostic category that arrived between the wars. Psychiatric casualties constituted the single largest category of disability discharges in World War II. As was the case in World War I, it was not only the “weak” or cowardly that were at risk of becoming a psychiatric casualty, but every man was at risk. In the U.S. Army by 1943 there were no effective divisional psychiatric facilities in the field. The common practice up until this point was to evacuate combat stress casualties to the rear. This lack of preparation had disastrous effects as seen in the Tunisian and Sicilian campaigns in 1943 where some divisions had 100% psychiatric casualties. Over 35% of all nonfatal casualties at this time were psychiatric cases. The Americans in this campaign were confronted by all of the horrors of war at once. They were mortared by the Germans,
dive-bombed by Stukas, forced to go days without water in the mountains of Tunisia with only mules for transport. Psychiatrists in the hospitals of Algiers said that these troops were “terror-stricken, mute, and tremulous” (Shephard, 2000). No more than 3% of these men ever returned to combat. In the Pacific Theater, the United States military had similar casualty rates. At Guadalcanal, 40% of the casualties evacuated suffered from disabling psychiatric collapse. The combination of prolonged exposure to exhaustion, fear, malaria, and witnessing sudden and violent death created these casualties (Marlowe, 2001). In the Battle of Kasserine and Faid Passes in North Africa, the Americans suffered another staggering number of psychiatric casualties. Here, the superior German weapons and more skilled troops overwhelmed our poorly trained and equipped men.

Even with those troops initially “selected out” of the service, there were an equal number of psychiatric casualties as the number of those soldiers killed and wounded.

In the Great War, psychiatric patients were treated as close to the front as possible and all casualties were screened to determine if a soldier could be treated near the front or should be shipped to a rear-area hospital. Hypnosis and electroshock treatments were the preferred methods of treatment for the American Army in World War I. Forty percent of those treated returned to the front to fight again; however, many became casualties again (Gabriel, 1987). The American Army in 1943 suffered from a lack of psychiatrists and was unprepared to deal with the growing number of psychiatric casualties. By 1944 the army had set up a structure for treatment based on the evacuation procedures of World War I.

During World War II the United States Army adopted the official slogan “every man has his breaking point.” It was established through the early experiences of the war.
that any man, no matter how brave or strong, could break down (Shephard, 2001). An army psychiatrist hypothesized that the average man could last between 200 and 240 combat days before becoming ineffective as a soldier due to combat fatigue. The American policy stated that soldiers would be kept in combat for 210-day tours of duty. Although this was not followed and troops were rotated out of combat sooner, the same units were committed to battle, month after month, with little reprieve. Soldiers who broke down in combat at the beginning of the war were usually evacuated to rear hospitals where many became long-term psychiatric patients (Marlowe, 2001).

Eventually, this was remedied and a variety of therapeutic treatments were utilized closer to the front with the aim of returning soldiers to their units. Brief therapy, simple encouragement, hypnosis, and sodium amytal drugs were used. Also, a non-medical term combat fatigue or battle fatigue replaced the World War I terms shell shock and neurasthenia. This was to decrease the stigma of combat stress and to aid in self-efficacy. Many psychiatrists of the time believed that a soldier would have symptoms produced, "consciously or unconsciously" as part of a survival instinct. Interestingly, it was reported that in areas where the symptoms of battle fatigue were known by the troops, there was an increase in the number of soldiers coming in for treatment (Shephard, 2001).

Environmental Determinacy

According to Marlowe (2001), World War II brought a shift in the perception of the cause of combat stress. Initially the general consensus in the medical profession was that certain individuals were predisposed to have a vulnerability to combat stress. This was why the selection process was thought to be an effective method for addressing the problem. However, by the middle of the Second World War, it became clear that every
man was at risk for being stressed by all the strains, fears, and anxieties of combat to the point of possible breakdown (Grossman, 1995). This shift began as men who had proven themselves as warriors and whose bravery was not in question broke down under the strain of combat. It was becoming quite obvious that the aggregation of all of the stressors of the combat zone were responsible. The shift went from internal and predispositional to external and environmental. The combination of anxiety from being put in a situation where one's life is in danger, where the enemy is trying to kill you, advanced weapon systems which kill without warning such as bombs and artillery, primitive living conditions, lack of sleep, lack of food, periods of intense fear alternating with periods of boredom, grief over loss of friends, and anxiety over events at home are examples of some external factors that cause psychiatric breakdown in soldiers in all wars.

War planners have historically known that these factors can lead to the demoralization of troops resulting in a lack of will to fight. The primary weapon of the Greek phalanx, or synchronized troop movement, was the terror it created by the uniform movement and sound of its men. Warfare's main weapon is to demoralize the enemy by creating overwhelming violence and destruction. Again, the goal is to create psychological damage in the enemy. The weapons of warfare create this damage congruent with a host of other insults that exist in the combat zone.

*Posture or Submit in Combat*

Grossman (1995) advanced that modern warfare has added a new aspect to the fight or flight paradigm. He argued that in past conflicts between male rivals there have been highly ritualized patterns of posturing, mock battle, and submission. These rituals
restrain the focus of the violence and are aimed at "status" and "damage limitation" rather than actual killing. Posturing has been seen in the plumed helmets of the Greeks and Romans and in the shiny armor and bright uniforms of past soldiers. Soldiers used battle cries to frighten the enemy such as the rebel yell of Civil War soldiers or the soldiers in the Greek phalanx. With the advent of gunpowder came another psychologically superior posturing tool. The blast of a musket or rifle proved enough to send an enemy soldier fleeing during the Napoleonic Wars. Throughout the conflicts up to and during the early part of the 20th century, it seemed as if soldiers were more concerned with posturing than attempting to kill the enemy. A study conducted during World War II found that 15 to 20% of U.S. soldiers were actually trying to kill the enemy. The balance was either firing over the enemy’s head or electing not to fire at all (Shephard, 2001). This early study revealed that the actual firing came from a small number of men who in the presence of non-firers kept on shooting. Grossman (1995) concluded that posturing was always a main component in the fight or flight-posture or submit tactics in warfare. This is due to the notion that there is within most men an intense resistance to killing their fellow man.

**Killing in Warfare**

In the famous study on World War II combat soldiers, S.L.A. Marshall wrote that a human being has a resistance towards killing a fellow human so much so that he will become a conscientious objector rather than take a life of his own volition (Marshall, 1978). Marshall was one of the leading researchers in the area of killing and the combat soldier. It was through his work, that one could see just how reluctant a soldier in combat was to killing an enemy soldier. Until the study by Army Major S.L.A. Marshall there
existed an assumption that a man would kill in battle because he was ordered to do so. In actual combat situations in World War II and the Korean conflict the opposite of this assumption was seen. In both theaters of World War II, out of every 100 men along the line of fire, only 15 to 20 would use their weapons. These men, as Marshall had observed, did not run in the face of the enemy yet only 15 to 20% of them would indeed fire at enemy soldiers even under banzai charges (Grossman, 1995).

A similar lack of enthusiasm to kill soldiers of the opposite side was seen when observing relics of our past. The most prevalent example was roughly 12,000 Civil War rifles that historians have located. These rifles were discovered, unfired, and many of them had been loaded several times. In the Civil War, 95% of a soldier’s time was spent loading a weapon and only 5% of his time should have been spent firing it (Grossman, 1995). According to this information, one must then wonder why there were not mainly unloaded weapons discarded on battlefields. Soldiers should have died with empty weapons if they did indeed have the intention to fire at the enemy at all costs. The discovery of weapons that were loaded two times might suggest a mistake under pressure. However, Grossman (1995) suggested that loading a weapon three times would not normally be regarded as a mistake but an attempt to dupe those in charge. In the Civil War, accounts show that only a few soldiers would engage the enemy. Those who did not engage the enemy would either intentionally miss in order to maintain a clear conscience or simply act as a spotter or ammunition provider for those few who would shoot to kill (Grossman, 1995). In 1346, on the field of Crecy, a unit of Genoese bowmen engaged in a small skirmish when they received fire from the enemy.
bowmen completely collapsed and at the same time cut the strings to their own crossbows (Gabriel, 1987).

When faced with a living, breathing opponent, not a target, many soldiers of the past have reverted to a posturing mode. Intentional shooting above a potential victim’s head is not very obvious to the observer. This method has been quite effective in allowing a soldier to be a conscientious objector. Grossman (1995) noted that looking another human being in the eye and making an independent decision to kill him, and watching as he dies combine to form the most basic, important, primal, and traumatic occurrence of war. Posturing, flight, or fight, are a soldier’s options in a threatening situation. If a soldier postures himself with his weapon, he is able to avoid the disapproving gazes of his comrades, flight is an option, yet the consequences are obvious, and killing is the other choice. If a soldier kills, he might be burdened with guilt, if he does not kill the blood of guilt of fallen comrades and the shame of a nation is a heavy burden to bear. However, the resistance to close-range killing is so great that it can many times overcome many influences from self-protection, coercion of leadership, peers, and the preservation of comrades. The decision is more difficult the closer the soldier is to the enemy (Grossman, 1995). At close range it is hard to hide one’s humanity. Rather than shooting a uniform and a generalized enemy, at this personal range it becomes a specific individual that one must kill.

Research conducted on soldiers performing small patrol groups behind enemy lines show few cases of psychiatric problems. This is a highly dangerous task, yet the orders in these groups are not to engage the enemy. Thus, there is no expectation of killing even though they might be killed (Grossman, 1995). Medics also show few cases
of psychiatric trauma in battle. There is a psychological distinction between being a killer and a healer in battle. A medic has the same dangers in battle but he does not carry the psychological burden of killing someone of his own species. Officers do not have to kill personally and they too seem to have a lower incidence of psychiatric casualties. In a study of 2,853 Gulf war veterans, 17.3% stated that having to kill or wound the enemy created “quite a bit” of “extreme stress” (Marlowe, 2001).

Artillery

Artillery has always inflicted the most casualties on battlefields historically. In World War II artillery accounted for more than half of all combat casualties. The destructive power of artillery generated a large number of psychiatric casualties in World War II (Gabriel, 1987). This weapon is indiscriminate in finding its victim and leaves soldiers helpless and at its mercy. Artillery accounted for the most kills in the Civil War, and it is likely that reluctance for the individual soldier to kill at close range led him to rely on this weapon. The psychological distance of a kill is directly responsible for an individual’s willingness to kill and remorse after a kill. One pilot can kill thousands of people with one load of bombs, yet one soldier killing one other soldier with a rifle or hand grenade is all the more traumatic (Grossman, 1995). As in the case of artillery, it is also important if a soldier is part of a team that requires the participation of all on the team to function and thus a diffusion of responsibility. Examples of this concept are: artillery teams, bazooka teams, machine gun teams, and any sort of mechanized team such as a tank team. Artillery was used extensively during the Battle of the Bulge and the American soldier had no recourse but to hide in a foxhole and depend on luck (Sevareid, 1989). According to Shay (1994), one soldier’s good luck means death for a comrade.
This was the case for artillery shells, stray bullets, and countless other combat incidents in which luck is the only factor leading to one's survival. The psychological implications of not being able to have any control over a soldier's own survival are great (Shay, 1994). In a study of Gulf War veterans, 43% of a sample of 1000 veterans stated that they were attacked by enemy artillery, and of that number, 35.8% stated that the exposure generated quite a bit of extreme stress (Marlowe, 2001).

**Deprivation**

The more than 83,000 American troops who were deployed thinly along the 85-mile Ardennes front during the Battle of the Bulge experienced deprivation first hand. The German offensive came on December 16, 1944, in the middle of winter and completely took the fresh American soldiers by surprise. An entire force of approximately 300,000 German soldiers, 1,900 pieces of artillery, and 970 tanks and armored assault guns were assembled and brought to bear in complete secrecy. Not only were the allies numerically overwhelmed, but also the attack came so quickly that the lines quickly crumbled and units were completely cut off (Goralski, 1981). This led the Americans to have their supply lines severed and their supplies dwindled. The Americans began the conflict with inappropriate gear as many reinforcements were hastily sent to the front. Cooks and supply soldiers from rear echelons were transferred into infantry units and many did not have winter gear. Even the frontline soldiers did not have appropriate clothing and had to take extra gear off of their own dead. Food was scarce and ammunition was low. Due to a period of intense fog and snow it was impossible for the Allied airlifts to drop supplies. The 101st Airborne troops were completely surrounded in Bastogne and had to fight on with the equipment that they had.
The soaked boots of the American soldiers froze solid as frost bite cases increased with no way to treat it. "Trench foot," as it was called, affected almost every soldier who fought in the Battle of the Bulge. Many lost toes or entire feet as a result of inadequate treatment. On December 23, the damp, foggy weather broke and 241 C-47 cargo planes dropped supplies to the Americans below (Goralski, 1981). This much-needed reprieve did not make up for the losses that had been experienced before. The American soldier of the Battle of the Bulge experienced shortage, privation, and daily physical torment on a constant basis. Thirst, hunger, lack of sleep, agonizing cold, inability to wash, lack of medicine to treat wounds, and lack of ammunition to fight the enemy created a physically stressful situation for the American soldier. The physical strain eventually turned into a psychological strain as the two are interrelated (Shephard, 2001).

Revenge

Lieutenant Colonel Joahim Peiper led the 1st SS Panzer Regiment which had the reputation of being fanatic warriors. Hitler greatly admired the 29-year-old tank commander for his bravery and obedience. His regiment consisted of 4,000 men and 127 tanks, including 42 of Germany's finest Royal Tiger Tanks. This was the first time that these tanks were being used in combat and Peiper was anxious to prove to his Fuhrer what they could do. Hitler ordered that the spearhead of his offensive should be "preceded by a wave of terror and fright." In one house in the area of Lanzereith, Peiper's men and a German paratroop unit surrounded 22 Americans. Although the Americans tried to surrender with a white flag, a dozen were shot down. Also during the early stages of this offensive, Peiper's men rounded up about 200 prisoners and as they were herded to the rear, a German tank opened fire on them (Goralski, 1981). As Peiper's troops
rolled up to the town of Bullingen, hoping to find much needed American fuel dumps, six
more American prisoners were shot. When Peiper entered the town itself, 30 American
prisoners were shot and another group with their hands on their head was fired upon. The
atrocities continued as a group of 120 surrounded American artillerymen were rounded
up by Peiper’s troops. With their hands up, they were forced into a pasture where panzer
tanks and half-tracks opened fire. The SS troops then walked among the bodies shooting
or crushing the skulls of anyone that showed signs of life.

News of this massacre spread throughout the American lines and the “unofficial
order” came out that German prisoners were not to be taken. American resolve stiffened,
and acts of revenge followed (Sevareid, 1989). Thousands of American soldiers resolved
never to surrender to the Germans and many shot enemy prisoners. According to
Grosman (1995), soldiers who commit atrocities are not longer able to surrender as they
have burned their own bridges. The unfortunate atrocities committed by the Germans
manifested in the Americans committing their own atrocities and leaving both sides fight
with a stiff resolve. Psychologically, the American soldiers who committed surrender-
executions would be forced to live with what they had done. Card (1983) found that one
of the antecedents to PTSD later in life was killing the enemy. Killing an enemy who had
surrendered according to the rules of war would create even more psychological damage
(Grossman, 1995). In another study of Vietnam veterans, about 20% had admitted to
participating in atrocities, and those with the most psychological damage were those that
had witnessed or participated in these acts. One final study of Vietnam veterans found
that every soldier who admitted to committing atrocities had Posttraumatic Stress
Disorder 10 years after the war (Herman, 1992).
Many soldiers in the Battle of the Bulge and in other conflicts in the past have followed the principle of “don’t get sad get even” when responding to their fellow soldiers being killed. Shay (1994) calls the state in which a soldier converts into a frenzied warrior the berserk state. When in this state, he feels immortal and knows no limits to his own power. The berserker’s goal is to bring an overwhelming amount of violence to the enemy in a reaction to the loss of his buddies. This individual is disconnected from the community of his fellow soldiers to take on the role of an efficient killer. Berserkers exist in all wars and are explained by the United States Army as suffering from misconduct stress behavior. This dysfunctional combat stress behavior results in: killing enemy dead, not taking prisoners, mutilating enemy dead, killing non-combatants, and torture/brutality (Department of the Army, 1994, pp. 1-5). Although these “invincible soldiers” are respected for their ability to engage the enemy, they are also feared and misunderstood. This is one of the unfortunate effects of seeing comrades be killed or the results of atrocities (Shay, 1994). These soldiers are attempting to gratify their own rage through the spilling of enemy blood. This risk-taking behavior in combat usually results in the soldier’s own death, however, it can have long-term psychological damage if he survives. More than 40% of Vietnam combat veterans reported taking part in violent act a month. The result of such action can be an emotional deadness or alexithymia and vulnerability to explosive rage (Krystal & Krystal, 1988). Also, a soldier who has taken part in revenge killings is much more likely to have a permanent hyperarousal in his physiology years later. This hyperarousal of the autonomic nervous system is one of the hallmarks of PTSD (Herman, 1992). Interviews with Battle of the
Bulge veterans revealed that this state existed in American soldiers and was much more pronounced after news of the Malmedy massacre. The emotional sequelae could be quite damaging to the Battle of the Bulge veteran who took part in such an event or witnessed the bodies of the American soldiers who had been massacred. Card (1983) noted that viewing dead soldiers was a marker for PTSD, and if one of these dead soldiers was a comrade, this could intensify the damage. In a study of approximately 1,000 Gulf War veterans, 9.2% claimed to see a buddy killed in action, and 43.5% of these reported that it generated quite a bit of extreme stress (Marlowe, 2001). In combat, witnessing the death of a soldier’s comrade places him at a particularly high risk for developing Posttraumatic Stress Disorder (Herman, 1992).

Friendly Fire

In the winter fog and snow of the Ardennes, frontline American soldiers could easily be mistaken for the enemy. Due to the sheer force and surprise of the German offensive, many American units were forced to withdraw. Their own rear units mowed many of these men down as they withdrew. Shay (1994), discussed a concept deemed a betrayal of what is right. This was essentially the violation of a moral rule that a soldier understands to be right by his culture. A soldier depends on the officers and artillerymen who provide needed fire support from areas safe in the rear. He depends on radio-operators to communicate fire coordinates to get the rounds on the correct target and avoid hurting his own troops. The soldier’s own life is in the hands of others, and when this system fails, he could be killed. It is at this point that he is forced to face the fact that he is dependent on the army for his survival. This state of dependence can turn to feelings of betrayal and helplessness when the system breaks down as in the case of...
friendly fire (Shay, 1994). Military doctrine allows for friendly fire, or fratricide, in the execution of battle plans; however, for the foot soldiers on the front lines, this is a dual insult. The first is the actual bodily harm that is caused by misplaced artillery or mortar fire. Second, is the psychological damage caused by the knowledge that a soldier’s own troops are killing his comrades. This destroys a soldier’s social order and confidence in his own ability to survive.

Helplessness

A large amount of one’s survival in warfare is dependent on luck, and for the Battle of the Bulge veteran this was no different. Friendly fire, landmines, artillery shells, sniper fire, frostbite, the “Buzz bomb,” and enemy rifle rounds could kill a soldier at any time and anywhere. The indiscriminate way in which one could be killed and the absolute lack of control over one’s own survival is demoralizing to the soldier. The spectrum of luck in warfare is good for the man who cheats death, but ultimately can result in the death of a comrade in the next foxhole (Shay, 1994). This resulted in a constant state of fear which is a predominant emotion in combat. A constant state of fear and anxiety and an inability to escape such a situation is the mark of combat. The fear is for the soldier’s own life and the lives of others with whom they had developed close, emotionally intimate relationships. Fear in combat is predominant, realistic, healthy, and in many cases, necessary for survival (Wilbur, 1984). This regulation of emotion is adaptive for human beings yet puts a great strain on the autonomic nervous system if taxed too long (Herman, 1992). For the soldier, there is little reprieve for the sympathetic nervous system which is constantly preparing the body for action. Years after a conflict the body is still programmed to be hypervigilant and has a difficult time mediating the
autonomic nervous system. Benotsch et al. (2000) states that the aggregation of one's resources available to cope with stress and the severity of the stressor will create an individual's response. In a situation in which a soldier has no control over the reduction of stress, and a lack of coping resources due to fatigue and lack of environmental resources, anxiety can be overwhelming. Taylor (1991) stated that situations that are uncontrollable or unpredictable are more likely to produce stress. Combat in the Battle of the Bulge was both uncontrollable and unpredictable and there was absolutely no escape from the constant stress. Combat trauma violates a soldier's faith in a natural or divine order and forces him into a state of existential crisis (Herman, 1992).

The Limits to Human Endurance

In Swank and Marchand's (1946) World War II study, it was determined that after 68 days of continuous combat, 98% of all soldiers in the field will become, to some extent, a psychiatric casualty. In World War II, soldiers were rotated out of combat after 80 days. During the Battle of the Bulge, in particular, soldiers were exposed to 43 days of relentless fighting until the battle was officially declared over (Sevareid, 1989). The British army found more success by rotating men out of combat after 12 days. In Vietnam, those soldiers who claimed to have mental trauma were sent back to fight. More than 800,000 men were classified as 4-F (unfit for military service) due to psychiatric reasons. An additional 504,000 men were let out of service due to psychiatric collapse. In World War II, psychiatric casualties were coming out faster than new recruits were coming in. In the 1973 Arab Israeli War, one-third of all Israeli troops were casualties of psychiatric collapse, the same was true for the Egyptian forces.
Taylor (1991) reported that there are four styles of coping with stressful situations. The first method is problem-focused coping which is an attempt to manage a stressful problem or situation by directly changing the situation to make it less stressful. In combat, such as the Battle of the Bulge, this was not possible. Second is emotion-focused coping which involves the conscious regulation of emotion. This is possible to a point; however, as there is no reprieve in combat, this becomes an impossible task for all but the hardiest of soldiers. Bartone, Johnson, Eid, Brun, and Laberg (2002) found hardness as one of the factors that can influence small-unit cohesion and act as an effective facet of fighting combat stress. The third style of coping is the presence of social support which is related to unit cohesion mentioned above. Social support can be an effective method of coping with stressors such as combat; however, soldiers must train together and spend a reasonable amount of time together as skilled soldiers before this is effective (Marlowe, 2001). The final method of coping is defensive coping which involves unconscious strategies that distort or deny the true nature of the situation (Taylor, 1991).

Krystal & Krystal (1988) reported that there is always a disturbance in affectivity in the phenomenology of trauma. Combat creates a situation where there is admitted helplessness in the face of unavoidable danger. Prior to this, a soldier would experience anxiety which exists in the presence of preventable danger; however, there is a point at which this anxiety switches over to passivity when danger is unstoppable.

The autonomic nervous system is in a state of hyperarousal with the growing anxiety as is caused by combat. Exposed to continuous threats of warfare, the body remains mobilized for battle indefinitely. Eventually this results in the loss of any
baseline state of physical calm or comfort. He will begin to suffer from insomnia, gastrointestinal disturbances, skin disorders, and abdominal, back or neck pain and rapid heartbeat. Eventually the somatic complaints and the connection to the terror that caused them are lost (Shay, 1994). Finally, a soldier's preservation instincts go one step further than somatic complaints or anxiety. Once it is clear that the threat cannot be dealt with, the affective state of the soldier turns to one of blocking emotions and progressive inhibition (Krystal and Krystal, 1988). This “psychic closing off” has been seen in Holocaust victims as a response to constant and overwhelming danger and horror. The individual who closes off affect is experiencing a symbolic death in order to preserve and prevent the permanent and psychological death.

Massive traumatization can lead to affective numbing in the form of alexithymia and anhedonia. These unfortunate defensive coping strategies lead to severe disturbances of self and object representation; subjectivity is lost. Individuals with alexithymia as a result of trauma have blocked cognitive imagination and inhibited capacity for self-caring or self-preservation (Krystal and Krystal, 1988). Alexithymia is closely related to the defense mechanisms known in psychoanalytic literature as denial and repression. However, separating these concepts is a difficult if not impossible task. According to Krystal and Krystal (1988) denial is defined as the conscious or unconscious repudiation of part or all of the total available meaning of an event to allay fear, anxiety, or other unpleasant affects. Repression is seen as a defensive response to an internal feeling caused by an external threat while denial is a defensive response to the external threat itself. Karon and Widener (1997) provide ample evidence that repression does indeed occur in World War II veterans who have experienced combat-related trauma. Whatever
conscious or unconscious coping strategy that is used by the soldier, the long-term effects of these immediate self-preservation strategies can be highly detrimental (Averill, 2000).

According to Wilson (1989), there are four dimensions to an individual's subjective response to trauma. The first is an emotional response of an individual to excessive autonomic nervous system arousal and endocrine secretions triggered by traumatic experiences. This can manifest as affective distress in which one feels extremely anxious and may be unable to mobilize resources to cope with a stressor due to overwhelming emotionality. Or, one might experience affective numbing, a state in which the capacity to feel is reduced. The second dimension is affect balance in which one is successfully able to negotiate an unusually stressful situation. This is a healthy reaction to an extraordinary event. The cognitive response is the third factor in stress response and includes the following: perception of the event, appraisal of the situation, attributions of causality, and a schema for carrying out a response. This information processing can be carried out in cognitive denial or blocking the perception of the event, cognitive distortion in which the perception is distorted to ward off anxiety, and accurate appraisal in which one is able to accurately perceive and act competently to the demands of the situation (Wilson, 1989). The fourth dimension is the physiological component which is the variations in neurochemical and endocrine secretions in individuals resulting from exposure to traumatic events. Noradrenaline, serotonin, and dopamine are extremely elevated during times of extreme stress to the point that they become out of synthesis. This results in a cortisol and acetylcholine to be elevated and can result in depression, avoidance behaviors, and blocking of fear, anger, and aggression. Finally, depending on one's own coping skills, resiliency in the face of trauma can vary tremendously.
Grossman (1995) noted that in battle fatigue cases, a soldier might suffer from the following symptoms: physical or mental exhaustion, he might be unsociable or overly irritable, the soldier might not want to engage in physical or mental activities, he might be prone to crying or fits of extreme terror anxiety, he might have hypersensitivity to sound, increased sweating, and palpitations, and the soldier could collapse if in combat too long. The cure for all of the aforementioned maladies seems to be rest and evacuation from the combat zone. A soldier can also suffer from confusional states in which he no longer knows who or where he is. This individual mentally removes himself from his physical environment. He might suffer from delirium, psychotic dissociation, mood swings, or this soldier might attempt to act silly and make jokes to ward of the horrors of his situation (Gabriel, 1987). Making inappropriate jokes in these situations is usually agreed upon as Ganzer Syndrome if it is severe enough. Ganzer Syndrome can result in cases of soldiers talking with and joking with body parts taken from enemy soldiers (Grossman, 1995).

Conversion hysteria can occur during combat and is more severe than fatigue or confusional states. This can manifest itself as an inability of a soldier to know where he is or to function at all. A soldier's aimless walking around a battlefield with total disregard for danger often marks this state. In World War II a soldier in a detached state of consciousness similar to a hypnotic trance was said to have the “two-thousand yard stare.” This was a man who no longer cares, who has a lack of voluntary action, suspension of initiative and critical judgment, has subjective detachment of calm, altered sensation, including numbness and analgesia, and distortion of reality, including depersonalization, derealization, and change of sense of time (Herman, 1992). As noted
previously with Alexithymia, a soldier can become amnesiatic, blocking out large portions of memory and those experiencing conversion hysteria can degenerate into attacks in which he will curl up in a fetal position and shake violently. Other times a soldier can be afflicted with contractive paralysis of the arm usually the one used to pull the trigger (Gabriel, 1987). Through these self-preservation methods, a state of detached calm exists in which terror, rage, and pain dissolve (Herman, 1992).

Combat also generates anxiety states in soldiers. Through this anxiety, a soldier can find himself in total weariness that cannot be relieved by sleep or rest. Nightmares and an obsession with death and the fear that other comrades will think he is a coward also plague a soldier in a state of anxiety. Soldiers can suffer from somatic symptoms as well such as: shortness of breath, weakness, blurred vision, fainting, emotional hypertension, and sweating. A soldier who realizes his own symptoms, which are similar to conversion hysteria, and knows that his fears are built on this, can have obsessive and compulsive states. Shay (1994), however, pointed out that there is a point at which the soldier no longer realizes that there is a connection between the danger and the somatic complaint.

**Combat Stress in History**

Throughout history, the symptoms of psychiatric debilitation have always remained constant. In ancient history, as the battle for the pass of Thermopylae was about to begin, two Spartan soldiers reported that they were suffering from an acute inflammation of the eyes. This is highly suspicious and seemingly psychosomatic. In the battle, Aristodemus, another Spartan soldier, claimed that his heart had failed him and he was removed to the rear. As long as there has been combat, there have been cases of true
PTSD and cases of soldiers who will deliberately hurt themselves or fake ailments in order to be removed from combat (Gabriel, 1987).

As early as 168 BC Polybius, a Greek military historian, wrote that many soldiers deliberately hurt themselves in order to avoid battle. In Vietnam, a medic actually anesthetized limbs of soldiers so they could not shoot themselves in order to get an honorable discharge. In the Russo-Japanese War of 1904-1905 psychiatrists were sent out into the field with the soldiers. The result of this practice was that as soldiers saw a way out to be sent to the rear, many began to manifest psychiatric symptoms.

**Trauma and Recovery Literature**

There is a wide body of literature which demonstrates that combat exposure moderates the effects of one's coping over time. Postwar stress has been shown as an exacerbating factor for experiencing traumatic symptomatology. Additionally, studies have linked early combat trauma to postwar stress in veterans with poor social resources concomitant with negative life stressors.

In a longitudinal study done on Vietnam Veterans in the years before the war and a decade after the war many similarities can be seen. The veterans in the study were especially bothered by the following indicators of anxiety a decade after the war: being easily startled by random noises, feeling fearful for no apparent reason, feeling lonely, and the feeling that things will not be better tomorrow (Card, 1983). The study compared the veterans’ results to the results of students from the same class of 1963 in high school who were not veterans. In 1981, 54% of veterans who had been in a combat zone reported a greater consumption of alcohol after the service than before, while 13% reported greater use of non-pharmacy drugs during and after the war than before.
Veterans had a harder time getting on track in life such as getting along with a wife or girlfriend, enjoying sex, feeling nervous, inability to control temper, letting small things cause anger, feeling that life is not worth living, feeling lonely, feeling tense, feeling that no one cares, and wanting to hurt others. These symptoms all fall under the diagnosis that was once referred to as having combat fatigue or being shell-shocked. This is now referred to in the DSM IV as Posttraumatic Stress Disorder and is associated many times with veterans.

Four indicators of PTSD are: exposure to a recognizable stressor or trauma, re-experiencing of trauma through rumination, emotional numbing to, or withdrawal from the external environment, and the experience of at least two symptoms from a list including hyperalertness, sleep disturbance, survival guilt, memory impairment, and avoidance of situations that may elicit traumatic recollections. Those soldiers who get Posttraumatic Stress Disorder are, according to Card's research, almost completely determined by the intensity of the combat experience. Three antecedents of PTSD were seen as consistent in the longitudinal study done on veterans. The first involved seeing the enemy wounded, the second factor that was consistent was seeing enemy dead, and the final antecedent of PTSD was killing the enemy. This notion of killing and its consequences was confirmed in the study done on veterans of the Vietnam War.

King et al. (1998) led an investigation of pre-trauma risk factors, war-zone stressors, and post-trauma resiliency was conducted on 432 female veterans and 1,200 male veterans. All of the participants had served in the Vietnam Theater of operations sometime between August 1964 and March 1975. An extended interview and self-report session was completed with each veteran. The topics covered in these interviews were...
prewar background and functioning, military and war-zone experiences, and postwar life events and mental health status. The results of the study showed that six variables were directly linked to PTSD for women: the prewar risk factor of early trauma history, the war-zone stressors of atrocities such as abusive violence and perceived threat, and the post-war resilience-recovery variables of additional stressful life events, resoluteness, and functional social support. These factors accounted for 72% of the PTSD variance in women. Of the male veterans the same PTSD variables that the women showed were factors along with age at entry to Vietnam, harsh war-zone environment, and the resilience-recovery variable of structural social support. For both genders, early trauma history was directly linked to postwar stress. In male veterans, dysfunctional and disorganized family systems and lack of social support seemed to compromise mental healing long after the war. The women, the authors speculated, may have been better at utilizing interpersonal and intrapersonal resources in times of need than the men. However, it is noted that men's war-zone experiences were likely more life threatening than the experience of female veterans so coping might well be more difficult. Pre-war life circumstances (socioeconomic status and family instability) added to war-zone stressors seemed to place veterans at a greater disadvantage for postwar symptomatology. Conversely, in both genders social support and interpersonal skills were extremely important in the recovery environment. However, the more war-zone stressors that an individual experienced, the less likely he or she was to maintain hardiness and social support. Overall, the authors found that multiple stressful events over an extended period of time may drive current symptomatology and must be looked at rather than simply the war trauma. Also, their findings pointed to the importance of environmental resources to
help neutralize the negative impact of traumatic events. Otherwise, an individual could suffer mental anguish well into his or her elderly years.

Barrett et al. (1996) looked at previous combat trauma in soldiers who served in the Vietnam War and the resulting adjustment problems later in life. The authors were investigating the correlation between high levels of combat exposure and a pattern of adult antisocial behaviors. These behaviors are characterized by irresponsibility, instability in occupational, interpersonal, or parental functioning, failure to adequately plan ahead, poor impulse control, and disregard for societal norms. Regression analysis was conducted on a sample of help-seeking Vietnam veterans resulting in the findings that the childhood behavior problems and the level of combat exposure were independent factors in antisocial behavior problems. In this study 2,441 Vietnam veterans were analyzed using a psychological examination with nine categories of adult antisocial behavior. Of these participants, 52% were younger than 20 years old when they entered service. These men were asked about recurrent thoughts or dreams of the traumatic events, suddenly feeling as if the traumatic event were recurring, loss of ability to care about others or loss of interest in usual activities, exaggerated startle responses, sleep disturbance, guilt about surviving, memory impairment or trouble concentrating, avoidance of activities that arouse recollection of the traumatic event, and intensification of symptoms by exposure to events that symbolize or resemble the traumatic event. This gave a baseline for PTSD symptoms in the DSM-IV.

After controlling for childhood behavior problems, the authors were able to specifically determine if extreme trauma exposure is uniquely associated with the antisocial behavior problem. Their findings indicated that 11% of the veterans sampled...
met the criteria for antisocial personality disorder according to DSM-IV criteria prior to trauma exposure. These individuals had many problems in adult functioning, such as the ability to maintain relationships or hold a job. Many veterans in the 11% were diagnosed with PTSD symptoms currently. Also, 20% of the veterans with no pattern of childhood behavior problems reported four or more adult antisocial behaviors. The authors noted that many of the symptoms of PTSD can lead to disruptions in relationships, vocational problems, and other areas of functioning. This study provided more evidence to suggest that combat trauma for some individuals can affect coping later in life.

_Gulf War and Somalia Veterans_  
Wolf et al. (1999) investigated the predictors of Posttraumatic Stress Disorder among Gulf War Veterans. This study looked at the rates of PTSD immediately following the war and 2 years later using 2,949 Gulf War Veterans. Information was gathered exclusively through self-report measures at both time points. The participants were composed exclusively of Army personnel, with a high proportion of the personnel from the reserves or National Guard. In addition, the participants were both men and women. The results of the study indicated that rates of stress symptomatology in Gulf War veterans were lower than rates from other eras. Rates in this study fell below PTSD prevalence estimates from the Vietnam War (15% PTSD for male Vietnam War Veterans approximately 19 years postwar). The authors advanced that this was probably due to the fact that the sample veterans were older, had more education, had less total combat exposure, and served in the war-zone on average for a much shorter time (approximately 4 months) than did the typical Vietnam War soldier (Wolf et al., 1999). The degrees of combat exposure and gender were important predictors of PTSD. Women in the sample
consistently exceeded the PTSD cutoff at rates over twice that of men. Additionally, military status (reserve or National Guard vs. active duty) and military rank (enlisted vs. officer) were seen as important factors in contributing to PTSD. Deployment was more traumatic for National Guard and reserve duty soldiers. This might possibly be a result of greater training and familiarity with war zone activities in active personnel (Wolf et al., 1999). Officers showed lower levels of PTSD than enlisted personnel suggesting many possible factors such as entrance-level requirements, differences in training and preparation, or variations in actual wartime exposure.

A study of United States soldiers acting in a peacekeeping role in Somalia (Litz, King, King, Orsillo, & Friedman, 1997) noted that the levels of PTSD in the participants were not related to the degree of life threat that these peacekeepers encountered. Rather, the great frustration that resulted from being forced to refrain from action and the daily discomforts of peacekeeping are more strongly implicated. The authors stated that this does not preclude the possibility that other maladaptive responses to peacekeeping stem from the inability to take defensive or retaliatory action under dangerous circumstances (Litz et al., 1997). Additionally, from this study it appeared as if rewarding humanitarian duties were responsible for negating many stress reactions in these soldiers. The last two findings are consistent with Grossman's (1995) research in which he stated that fear of death or injury is not a substantial factor leading to PTSD. Additionally, Grossman noted that nurses and doctors reported less PTSD in war even after witnessing horrible scenes repeatedly. This could be related to the rewarding nature of their work and the lack of expectancy for them to kill (Grossman, 1995).
It was the distinction between the specific types of military occupation, such as graves, registration, and specific assignments, for example having to kill, that was the focus of Grossman's (1995) research on killing and combat. Grossman hypothesized that by conditioning a soldier to overcome what he perceives to be an instinctive loathing to kill, that one dramatically increases the risk of an individual's being afflicted with Posttraumatic Stress Disorder. In a famous World War II study on combat soldiers, Army Brigadier General Marshall wrote that the average and healthy individual has such an inner and usually unrealized resistance toward killing a fellow man that he will not of his own volition take life if it is possible to turn away from that responsibility (Ratline, 1977). Grossman specifically looked at soldiers from different branches of the service and investigated how killing affected them. He found that the military's training in which desensitization and conditioning to create a non-thinking killer is widely utilized, a great deal of psychological damage is done to individual soldiers. This study also noted that those non-killers who are exposed to the same number of brutal conditions do not seem to have the same degree of psychological damage as those who are in the position to kill (Grossman, 1995).

According to Card's (1983) longitudinal study on veterans of the Vietnam War, three antecedents of Posttraumatic Stress Disorder were seen as consistent. The first involved seeing wounded enemy soldiers, the second factor that was consistent was seeing dead enemy soldiers, and the final antecedent of PTSD was killing the enemy. Sutker et al. (1993) researched psychopathology in Gulf War troops assigned to graves registration duties. This study found current and lifetime PTSD rates of 48% and 65% in
troops assigned to graves registration duty. This data suggests that the psychological aftermath of war-zone participation involving the horrific task of handling human remains is staggering. The findings of this study are consistent with the antecedents in Card’s research on Vietnam veterans.

Risk Factors and Coping with Trauma

Amir, Kaplan, and Kotler (1996) determined that both higher military rank and higher level of education were both protective factors against succumbing to PTSD. A study by Vasterling (2002) suggested that a higher IQ might help safeguard an individual soldier against developing Posttraumatic Stress Disorder. Norris (1992) researched the frequency and impact of 10 potentially traumatic events in a sample of 1,000 adults. This sample was divided by race and among younger, middle-aged, and older adults. The subjects were asked about their exposure to 10 stressful events over their lifetime. The 10 events varied from tragic death exposure to sexual assault. The author investigated the degree to which the event caused the subject a perceived level of stress. Of the 1,000 participants, more than 200 had experienced some type of violent encounter in the past year alone. It was also noted in this study that present levels of perceived stress were significantly higher among persons with previous traumatic experiences than among persons who had not experienced traumatic events. This article pointed to psychosocial factors, such as stability in lifestyle, personality, and environment, to possibly explain why the same person who experienced trauma in the past is experiencing high stress currently. The difficulty in specifically indicating the exact cause of the subject's stress was also mentioned. The author stated that the stress could be current stress as a result of interpersonal problems or financial problems, and the result of a traumatic event.
terms of the events reported, motor vehicle crashes emerged as the single most significant event studied. The author arrived at this event by looking at the frequency and severity data. When looking at the relative vulnerabilities of the samples, lifetime exposure was highest among young Caucasian males. Past-year exposure was highest among younger adults. Black men appeared to be the most vulnerable to the effects of traumatic events, and young people showed the highest rates of PTSD.

The frequencies with which traumatic events occurred among older adults are of greatest interest. The age differences of this study showed that with older adults there is a trend toward fewer traumatic events in the past year than for lifetime frequencies. The findings also demonstrated that older people did not have higher lifetime frequencies of traumatic events than younger or middle-aged adults. The author hypothesized that this could be due to the fact that the young are more prone to violence than older adults. Additionally, the older adults might have a difficulty with reporting these events. Long-term memory deficits or the determination that these events are too insignificant to mention might also lead to reporting problems. However, when traumatic exposure was mentioned, older people showed low rates of PTSD. This may show resilience to stress that individuals build over time a lifetime or a greater passage of time since the events occurred. The better outcomes for older adults were not seen when looking at victims of past-year crime. In these rare cases, older adults had the same levels of stress as younger and middle-aged adults. The research presented in this work points to the notion that older adults may not have residual suffering from early traumatic events that could make stressors experienced later in life more difficult to deal with. This is a stark contrast to
many of the other studies which show a correlation between early trauma and late life stressors.

Brewin et al. (2000) conducted a meta-analysis on 14 separate risk factors for Posttraumatic stress Disorder. Factors such as gender, age at trauma, psychiatric history, reported child abuse, family psychiatric history, trauma severity, social support, and additional life stress were investigated. The authors reviewed 77 articles based on samples of adults who had been exposed to trauma either in childhood or in adulthood. Of the 77 articles, 28 were based on military personnel who had experienced war trauma, and 49 articles were based on civilian populations. Of the latter sample, 13 were crime victims, 9 were disaster victims, 4 were motor vehicle accident victims, 6 were burn victims, 7 were victims of terrorist attacks, and the final 10 individuals were victims of mixed traumas. All of the participants in these studies were 18 or older. Fifty articles used interviews to measure PTSD, 26 used a questionnaire, and 1 used both methods.

The results of the meta-analysis displayed some interesting results. The authors stated that the effects of trauma on individuals tended to be dissimilar across studies. However, this was not the case for psychiatric history, childhood abuse, and family psychiatric history. There was no common standard of pretrauma predictors in terms of gender, age at trauma, and race. Additionally, there was no gender effect in military samples as there was in civilian samples. This could be due to the greater exposure to traumatic situations among male veterans than female veterans. Younger age at time of trauma was only a potential risk factor in the military. Also, lack of education, childhood adversity, trauma severity, and lack of social support had stronger effect sizes in the military populations. Race was not seen as a strong predictor across all of the studies;
however, the authors noted that minority was taken as a whole group in most of the research conducted. There is a problem in making any predictions when there are so many groups within this category. However, more minorities were seen to have exposure to war trauma that could explain some higher risk of PTSD for minorities. In terms of gender, the authors found that studies of men yielded significantly larger effect sizes for younger age at trauma and race than did studies of women. Other studies showed that when men and women were directly compared, women were more at risk for developing PTSD. This could be a result of more willingness to report by women or greater exposure to child sexual abuse and other sexual assaults experienced by women.

Interview methods of assessing PTSD led to larger effect sizes for younger age at trauma and trauma severity, whereas questionnaire methods led to a larger effect size for previous trauma.

Pretrauma variables appear to be predictors of PTSD yet there was not a general consensuses in the literature as to which variables are more powerful predictors. Also, emotional responses such as shame and anger with others, dissociation occurring during the traumatic event, and acute stress disorder seem to be predictors of later PTSD. These individual responses after a traumatic event could definitely determine how one might fare with a transition stressor later in life.

Studies of Early Trauma and Psychosocial Adjustment

Elder et al. (1994) questioned how soldiers who entered World War II at a later age, after 30, compared later in life to those deployed prior to age 30. The findings of this longitudinal study of 800 veterans suggested that late mobilization in World War II had adverse effects on veterans' lives and health. This was partly due to the social
disruptiveness of this transition. Holman and Silver (1998) conducted a study which
delved into the relationship between temporal orientation and long-term psychological
distress. The study was conducted longitudinally in adult victims of childhood incest,
Vietnam War veterans, and residents of two southern California communities destroyed
by fire. The authors found that a past temporal orientation (focusing attention on prior
life experiences) was associated with high levels of stress even long after the event had
passed. These individuals who remained focused on the past many years after the
traumatic event happened reported higher levels of stress than those who were either
present or future oriented. Rumination can cause these individuals to get caught up in a
perpetual cycle. According to the findings of this study, the self-reflecting process can
prolong distress and maintain a past temporal orientation. Associated with past temporal
orientation is temporal disintegration. Temporal disintegration at the time of the
trauma (focusing on the traumatic event and becoming isolated from the past and future)
seems to cause a great deal of stress and was highest among those individuals who had
experienced the most severe trauma. These individuals who were most vulnerable to
immediate temporal disintegration were those people who had personally experienced
chronic trauma in the past, or appeared to have experienced a direct threat to their
personal identities (such as fire victims). There is, therefore, a link between temporal
disintegration and temporal orientation with long-term adaptation to trauma. However,
this research did not determine if the tendency to have this intense reaction to trauma is at
all predictable. It seems as if temporal disintegration is lowest in those individuals who
had not experienced acute trauma prior to another traumatic event. It appears evident that
an individual who is more future oriented and less caught up in the past would be more
likely to deal effectively with a stressor in the future. Keyes, Shmotkin, and Ryff (2002) saw this future orientation as related to one's human potential and psychological well-being.

A study on the impact of motivation and coping with traumatic events was conducted which looked into the impact of self-enhancement motivation on the temporal comparisons of victims of traumatic life events (McFarland & Alvaro, 2000). The results of the study indicated that victims were more likely than acquaintances of victims to report improvement in their functioning after a traumatic event than after less-traumatic life events. The authors found that individual perceptions of personal improvement were often times influenced by illusions that are designed to help people cope with traumatic life experiences. Threatening self-relevant feelings, according to the authors, brings about this illusory thinking. People seem to cope with threatening experiences by constructing self-enhancing illusions of change. However, the authors noted that they are not advancing the notion that this thinking is entirely illusory. They hold that some part of the difference between reported stress by victims and acquaintances of victims reflects a distortion of previous attributes. The authors would like to see further research conducted in which the victim’s current attributes are self-reported and then reported by an observer before and after mild and severe life events. This would show whether people truly exaggerate real positive changes that occur after a traumatic event or if the improvement is merely a distortion. When looking at an older adult and an early traumatic experience, this self-reported perception of personal improvement could be a factor in looking at future coping. An individual who has created the illusion that he or she has improved might be less affected by a transition stressor late in life.
One study by Barrett et al. (1996) looked at previous combat trauma in soldiers who served in the Vietnam War and the resulting adjustment problems later in life. The authors were investigating the correlation between high levels of combat exposure and a pattern of adult antisocial behaviors. These behaviors are characterized by irresponsibility, instability in occupational, interpersonal, or parental functioning, failure to adequately plan ahead, poor impulse control, and disregard for societal norms.

Regression analysis was conducted on a sample of help-seeking Vietnam veterans resulting in the findings that the childhood behavior problems and the level of combat exposure were independent factors in antisocial behavior problems. An analysis of 2,441 Vietnam veterans was carried out using a psychological examination with nine categories of adult antisocial behavior. Of these participants, 52% were younger than 20 years old when they entered the service. These men were asked about recurrent thoughts or dreams of the traumatic event, suddenly feeling as if the traumatic event were recurring, loss of ability to care about others or loss of interest in usual activities, exaggerated startle responses, sleep disturbance, guilt about surviving, memory impairment or trouble concentrating, avoidance of activities that arouse recollection of the traumatic event, and intensification of symptoms by exposure to events that symbolize or resemble the traumatic event. This gave a baseline for PTSD symptoms in the DSM-IV.

After controlling for childhood behavior problems, the authors were able to specifically determine if extreme trauma exposure is uniquely associated with the antisocial behavior problem. Their findings indicated that 11% of the veterans sampled met the criteria for Antisocial Personality Disorder according to the DSM-IV criteria (Barrett et al., 1996). These individuals had many problems in adult functioning, such as
the ability to maintain relationships or hold a job. Many veterans in this 11% were diagnosed with PTSD symptoms currently. Also, 20% of the veterans with no pattern of childhood behavior problems reported four or more adult antisocial behaviors. The authors noted that many of the symptoms of PTSD can lead to disruptions in relationships, vocational problems, and other areas of functioning. Due to problems with retrospective self-reporting, the authors were not able to fully control the PTSD diagnosis in their work. However, there does appear to be enough evidence from this study to demonstrate that in many cases young adult trauma can cause many problems with functioning later in life.

Sutker & Allain (1996) assessed mental disorders in 214 prisoners of war in World War II and the Korean War and in 112 combat veterans of both wars. POW trauma was measured by using a trauma events index while PTSD was diagnosed through the use of a Posttraumatic Stress Disorder module of assessment tools. These subjects were selected from a group of 408 male veterans who either responded to a Department of Veterans Affairs invitation to participate in a medical evaluation or were part of a nationally mandated protocol targeting former POW survivors in a psychological investigation. The authors divided the participants into four groups: 151 WWII European theater POW survivors, 37 WWII Pacific theater POW survivors, 26 former Korean War POWs, and 112 combat veterans of both conflicts. The sample was also looked at in terms of treatment and non-treatment seeking individuals. The results of the study showed that psychopathology was greater among former POWs than veterans who saw combat alone and among POW groups who experienced more severe brutality such as torture and experienced severe weight loss. The diagnosis of current mental disorders
ranged from 29% among combat veterans to 88% in Korean War POWs. Rates of lifetime mental disorders were higher for all groups. More than three fourths of former POWs and one half of combat veteran participants had at least one lifetime disorder. These disorders were predominantly anxiety and depressive and were experienced by 56% of combat veterans to 96% of Korean War former POWs. These results follow other studies, which indicate that severe trauma experienced in young adulthood has effects on mental health, which are frequent and longstanding. Of the combat veterans, 17% reported PTSD as a lifelong disorder and many of the Korean War former POWs had all of the symptoms for a lifetime diagnosis of PTSD.

Overall, this study showed that as war trauma becomes more prolonged, life threatening, and gruesome, there is an increased risk for mental disorders that can last a lifetime. These disorders can develop in anyone who experiences trauma to this high degree. It would appear that war trauma's mental effects are life-long in duration which will take a toll on life adjustment and will not remit with the passage of time.

Sutker & Allain (1995) chose to examine the resiliency of WWII aviator POW survivors as compared to WWII non-aviator survivors. The non-aviator former POWs were marked generally by less education, lower military rank, and fewer personal resources. The participants consisted of 239 WWII POW survivors of whom 33 were flight crewmembers. The other POW survivors’ data came from an earlier VA study. These 33 crewmembers made up the sample of aviators assessed. These participants were all Caucasian, officer rank, and ranged in age from 69 to 79 years. They were also characterized by having advanced education as measured by the Wechsler Adult Intelligence Scale. Twenty of these men served as Air Corps pilots while the other 13
had navigator or bombardier duty. The majority of all of the POW survivors experienced interrogations, solitary confinement, harsh climates, forced marches, and confinement illnesses. Additionally, many in the sample were exposed to semi-starvation, death threats, beatings, and physical torture. All participants were assessed using the WAIS-R, a demographic questionnaire asking about military trauma, and the MMPI was used to draw a profile pattern. Additionally, clinical interviews were conducted on the participants utilizing the DSM-III.

Of the aviators tested, 39% admitted sufficient symptoms to be labeled by current psychological disorder, most frequently PTSD 33%, followed by Dysthymia 12%, Major Depression 9%, and Depressive Disorder Not Otherwise Specified, Atypical Bipolar Disorder, Simple phobia, Panic Disorder, Somatoform Pain Disorder, and Substance abuse, each disorder at 3%. Lifetime disorders were seen in 48% of the sample, alcohol abuse 9%, alcohol dependence 3%, simple phobia 6%, and social phobia 3%. Rates for PTSD were at 33% for both current suffering and lifetime diagnosis. The MMPI profile pattern for the POW samples showed less psychopathology among the aviators, compared with POW samples of greater demographic diversity used in an earlier VA study. Rates of psychopathology were greater than expected in the aviator sample but lower than other samples, which include those of lower rank and education, according to the authors. Again, this data shows that psychological symptoms caused by trauma early in life can affect an individual over the life course. These participants ranged from 69-79 years of age and there were still current rates of 39% for any current psychological disorder and 33% for current PTSD.
Sutker, Allain, and Johnson (1992) researched late-life psychological outcomes of World War II flight combat exposure. The two participants were identical-twin pilots who were raised, educated, and trained together; however, one was a POW and one was not. The two participants agreed to undergo a full psychosocial and clinical interview, psychosocial assessment, and the Diagnostic Interview Schedule. The psychological battery of tests included the brief background information questionnaire (BIQ), Weschler Adult Intelligence Scale-Revised (WAIS-R), Weschler Memory Scale-Revised (WMS-R), Wisconsin Card Sorting Test (WCST), Porteus Maze Test, Category Test, Trail Making Test, Rey Auditory Verbal Learning Test (AVLT), Minnesota Multiphasic Personality Inventory (MMPI), Beck Depression Inventory (BDI), State-Trait Anxiety Inventory (STAI), Adjustment Problem Checklist, C-DIS; DIS PTSD module, and the PTSD Checklist interview. The results of the clinical case comparison between twins showed that the POW survivor presented cognitive deficiencies that came up within the context of the overall psychological differences between the two. The former POW showed a more elevated MMPI profile, more adjustment problems, and generalized anxiety disorder, panic attacks, and lifetime PTSD. However, due to his strong motivation for success in life and his personal resources, the former POW twin was able to manage life circumstances with relative success long after the war. He experienced more traumas during the Korean War, yet after this conflict he distracted himself through his work. This was his method of compensating for worry about his psychological well-being. The twin who was not a POW, yet experienced air combat, reported no problems with anxiety depression, or other psychiatric symptomatology throughout his life. Both of the twins had similar pre-trauma experiences leading to the hypothesis that the trauma...
itself was the major factor in psychological damage. The former POW had been subjected to interrogations, intimidations, personal death threats, solitary confinement, forced marches, transportation in boxcars, exposure to extreme cold without adequate protection, and inadequate diet and medical care. The nature of this trauma had long lasting effects on this veteran. It can be derived that trauma can have a lifelong effect on an individual which could impact the reaction to future life transition stressors. However, the severity of the trauma is a major contributing factor as was seen in this interesting study on identical twins.

A 1989 study compared 34 survivors of the Holocaust to 34 general respondents, both groups were from Israel. Participants were similar in age 60-66 years old, all were married (except 3 widowers) and 80% defined themselves as non-religious. The subjects had all grown up in Poland prior to World War II. The survivors were chosen according to four criteria: they had been in a Nazi concentration camp for at least 12 months, they were not members of an organization such as the Partisans that actively fought the Nazis, they were at least 12 years old at time of imprisonment, and all were no older than 70 at the time of the interview. The other participants spent the years of WWII as free men and women; most had immigrated to Palestine before 1939. The results of the study demonstrated that the survivors had lower scores over almost all emotional domains than the other participants. Survivors rated themselves as less emotionally stable, with lower feelings of self-discipline and self-control, lower feelings of dominance and assertiveness and lower levels of energy. Additionally, the survivors had more difficulties with emotional expression than the comparison group (Nadler & Ben-Shushan, 1989). The survivors had a lower willingness for change and innovation, and had lower physical,
personal, and social self-concepts than the comparison participants. In terms of interpersonal relations, the survivors rated themselves as less warm, more suspicious, and more paranoid, yet they also rated themselves as more dependent on others (Nadler and Ben-Shushan, 1989).

Thirty survivors were asked about psychosomatic complaints and insomnia, the presence of fears and depression, and nightmares and suicidal thoughts. Of those interviewed 27 reported frequent psychosomatic symptoms with 2 in the comparison group, and 25 also reported problems of insomnia as opposed to 6 comparison respondents. Thirty survivors reported having frequent anxieties and fears and two thirds stated that they feel depressed often. Only 2 individuals in the comparison group reported similar problems. Twenty-two survivors reported that they could not enjoy life. Eleven survivors vs. only 1 in the comparison group reported having had serious suicidal thoughts in the past.

Overall, one would suspect that over time psychological well-being would improve for victims of severe trauma. However, the authors hypothesized that these survivors concentrated on rebuilding their lives and families after the war and did not direct any energy towards psychological repair. At the time of this study, these individuals had put the other tasks behind them and were seeing their old conflicts, fears, and anxieties surface. After a trauma, many individuals seek psychological help to deal with the psychological damage. However, it seems as if the Holocaust survivors who repressed the trauma were dealt a double blow. First, their young adult lives were devastated by the trauma, and their old age is overshadowed by its aftereffects.
Depending on the levels of psychological care that an individual receives after a trauma, including social environment, the effects of major trauma can resurface in old age.

The notion that early trauma experienced in young adulthood can affect one's reaction to transition stressors later in life has been reinforced through the literature. The consideration implicit in this statement brings about many hypotheses regarding pretrauma stressors and posttrauma environmental support. However, the body of research does show a link between trauma experienced in young adulthood and psychological distress many years later. Hence it is quite predictable that an individual who experiences trauma that is severe enough to cause marked distress will have residual mental effects well into his or her elderly years. As the Holocaust and POW studies showed, the severe trauma in these horrible situations has consistent long-lasting effects. Depending on the degree of war-zone stressor, combat veterans also seem to consistently suffer long-term psychological damage into late life.

**Posttraumatic Stress Disorder and Older Adults**

Currently, almost 11 million veterans are entering their later years. According to Averill and Beck (2000), older adults who were traumatized earlier in life reported a similar course of PTSD symptomatology. In a sample of World War II veterans, this course began with coping initially, followed by an exacerbation of symptoms lasting roughly 5 years, and then a period of latent symptoms during middle age. However, as these men entered their elderly years, symptom exacerbation was common. The most commonly reported symptoms reported by a sample of elderly World War II veterans attending a mental health clinic were insomnia (80%), nightmares (75%), irritability
(65%), social isolation (50%), and flashbacks (45%). Also, in a study of Pearl Harbor survivors, 65% still experienced intrusive memories, 42% reported survivor guilt, and approximately 33% reported emotional numbing (Averill & Beck, 2000). In a study by Amir, Kaplan, and Kotler (1996), it was revealed that PTSD core symptoms and associated features worsen over time. An additional finding of this study was that the more time that elapsed since the trauma, the more severe the PTSD symptoms and the greater the co-morbidity was. In veteran older adult samples there are high rates of lifetime Major Depression and alcohol abuse related to war trauma. Averill and Beck (2000) pointed out the limitations in much of the existing data on veterans of World War II. Much of the data were based on those individuals who have sought treatment and this may not be truly representative of the veteran population as a whole. Also, older adults with PTSD may be more likely to be misdiagnosed as having a medical problem because of this population's focus on physical rather than psychological symptoms.

Most of the literature on psychiatric symptoms among World War II and Korean War veterans suggests that delayed-onset PTSD later in life is common. Fontana and Rosenheck (1993) found that many World War II and Korean War veterans might precipitate delayed-onset PTSD. Averill and Beck (2000) reported that many of those veterans who had either delayed-onset PTSD or a worsening PTSD symptomatology experienced this in mid to later life. Life events such as loss of employment or separation from family members were cited as stressful life events around the time of delayed-onset PTSD in a sample of 100 World War II veterans in this study. Older adults may have more time to reflect on events that occurred earlier in life after the demands of work and
families are lessened. There is also evidence to suggest that events that resemble the initial trauma may also be likely to trigger delayed-onset PTSD. For example, McFarlane (2003) noted that events such as the September 11th attacks could cause veterans to manifest latent PTSD symptoms. Averill and Beck (2000) suggested that a possible factor in the development of delayed-onset PTSD is the nature of specific developmental tasks that occur later in life. This author referred to Erikson’s developmental stages (1980), which are seen to provide a period of life-reflection in one’s elderly years. This can lead to ego identity or despair, depending on meaning that is given to previous life events (Erikson, 1980). In reflecting on and reviewing painful and traumatic life events, delayed-onset PTSD might result (Averill & Beck, 2000). However, despite this finding, other research shows the benefits of life review. A study of depressed homebound older adults showed that by reviewing the events of their lives, even old wounds, elderly people often come to a better understanding of their past (McDougall, Blixen, and Suen, 1997).

Erikson’s Developmental Stages

Erik Erikson (1980) charted a framework for psychosocial development that began in infancy and ended in old age. His last stage or Stage 8, was termed integrity vs. despair and included those adults 60 and up. Erikson conceptualized this developmental period as one in which an individual is confronted with a specific psychosocial crisis. The integrity vs. despair crisis involved specific and desirable psychological outcomes. An individual hopes to accept his or her life as unique and meaningful to bring about a sense of order within the self. This entails acceptance of one’s own life cycle as something that had to be and that could not have been substituted by another path. According to Erikson (1980) one must be ready to defend the dignity of his or her own
lifestyle in the hope of gaining wisdom. Wisdom is achieved by accomplishing the aforementioned tasks concomitant with gaining a sense of belonging to all humankind while understanding one’s own unique piece. Finally, an individual must be able to adapt to the disappointments that he or she is faced with through an understanding that it is part of being.

Although Erik Erikson mentioned that there are disappointments in life, he did not fully address the problems faced by the oldest adults. His original stages of development did include life tasks such as problems of retirement, changing role relationship, physical and monetary problems, possible death of spouse, friends, family, waning self-sufficiency, and health problems. However, he was under the impression that one could negotiate these issues through the aforementioned developmental tasks. Joan Erikson was not completely satisfied by having Stage 8 remain the final stage of life. Life in the 8th stage includes a retrospective accounting of one’s life to date and how well one is able to embrace it. Even if one was able to gain integrity through this process there is another developmental stage. An individual in his or her eighties or nineties might be experiencing despair due to the disintegration of body and mind regardless of the life review process. She wanted to conceptualize a method of maintaining integrity while the deteriorating body and new life stressors would lead one to despair. In her extended version of her husband’s original work, Erikson and Erikson (1997) noted that in all of the stages the syntonic comes before the dystonic such as “integrity vs. despair.” Joan Erikson pointed out that the aging process in itself sometimes places the dystonic first. It is for this reason that Joan Erikson added a Stage 9 of psychosocial development to address both shortcomings.
Of integrity in Stage 9, Joan Erikson (1997) stated that an affinity forms for those few others who have been significant in life’s most important contexts. She added that two or more people who have shared a similar powerful life experience can merge together in order to achieve integrity. These two concepts taken together describe the life review process in Stage 9 as meeting with and talking to others who have shared in parts of life’s journey. For a Battle of the Bulge veteran, monthly meetings with those of a shared joint identity would be experienced as enlightening. Through discussions with others, an individual is able to gain a new kind of life-historical awareness which can be quite healing (Erikson & Erikson, 1997). However, there is more in the ninth stage than a life review process. In the ninth stage, integrity is seen as “wisdom” and includes the lifetime practice of learning to be tactful and have patience with aging rather than discouraged. Despair becomes “disgust” in Stage Nine. One can become thoroughly engrossed in activities of daily living so that it is enough just to get through the day intact, regardless of how satisfied one is about his or her previous life history (Erikson & Erikson, 1997). She added that there is a great deal of sorrow that one must deal with and the realization that death is near in this stage. Living and coping with these hurdles is how to reach the goal of this stage. An elderly individual who is able to come to terms with the dystonic elements in his or her life is on the path to what Joan Erikson deems "gerotranscendence."

Gerotranscendence is a shift in one’s perspective from a rational outlook to a more transcendent one which is followed by increased life satisfaction. Erikson and Erikson (1997) hold that an individual who is able to achieve peace of mind in the final stage will experience maturation and wisdom. Many older individuals tend to isolate
either on their own accord or due to circumstance. When this withdrawal is a result of a
disdain for life and others, one is on the path away from wisdom. The deterioration of
one’s own body can force a withdrawal as well as emotional or psychological responses
to this deterioration. Erikson and Erikson (1997) stated that when this withdrawal is
imposed, transcendence and wisdom are unlikely. The goal in this stage is for one to
construct a socially effective sense of self in old age which is based on the wisdom of
humility. Joan Erikson argued that an older adult should not encourage letting go but
rather moving forward.

In sum, it appears as if Stage Nine is a time in which the body and mind are put to
the test as well as countless new social changes and stressors. To navigate this last stage
of life involves resisting the impulse to give in and engage in self-pity and weakening of
resolve. One who is able to stay social, maintain contacts with those who have been
around during important life moments, and rise above the situation to the extent possible,
will have increased well-being or achieve “gerotranscendence.”

Summary

This chapter highlights the central issues related to an understanding of early
combat trauma and its sequelae. Veterans of the Battle of the Bulge were exposed to a
host of stressors in the Ardennes Forest in 1944. Yet, as noted at the beginning of the
chapter, the concept of posttraumatic stress was more or less alien to the mental health
field in World War II. Ever since Posttraumatic Stress Disorder was added to the
Diagnostic and Statistical Manual of Mental Disorders Third Edition, DSM-III, there has
been a growing interest in the area of trauma and recovery. In the last 15 years, a host of
articles have been written on the etiology, incidence, assessment, and treatment of
posttraumatic stress. Much of this literature, however, has focused on Vietnam veterans, and there has been less attention paid to World War II and Korean War veterans. Although the traumatic stressors in warfare tend to generalize across different conflicts, the negative homecoming experience of Vietnam veterans makes this group unique. Therefore it is necessary to look at veterans of other conflicts as well to obtain an accurate picture of the effects of combat on military personnel. Recently, there have also been an increasing number of studies on Gulf War and Somalia veterans. Besides Swank and Marchand's (1946) study, there have been no other studies of World War II veterans' combat stress reactions until the last decade. This is an extremely important group to inform on the delayed effects of traumatic stress as these veterans are now elderly men. As earlier research has shown, the effects of combat are generalizable from one war to another. However, it is currently not clear how early combat trauma affects functioning much later in life.

While there are many commonalities between the stressors and trauma faced by combatants of all wars, there are also the aforementioned unique factors as well. This chapter introduced the specific aggregation of insults that the American soldier had to face in the Battle of the Bulge in 1944. The extent to which an event is traumatic is determined by the interaction between trauma magnitude and a range of victim variables that serve as relevant risk factors for the development of stress disorders. This interaction is further mediated by life stressors and social support. The long-term effects of the World War II veteran's experience have largely been overlooked in the past. The trauma research has shown a link between early combat trauma and psychosocial adjustment. However, there is also a body of research which finds that some individuals will become
more resilient as they age or simply forget about traumatic experiences over time. This conflicting literature has been presented as a further reinforcement for the need to see if the trauma and recovery research findings, which stated that early trauma does affect late-life functioning, hold up for Battle of the Bulge veterans. If it is shown through this current research that early combat trauma for these veterans does negatively affect adjustment later in life, then parallels can be drawn to combat veterans of today's wars and future combatants in wars to come. Among other things, a better understanding of the stressor, the veteran, and the veteran's social network must be considered within the context of the veteran's environment and resources. A delineation of these factors in Battle of the Bulge veterans would allow mental health workers to understand combat trauma and recovery more effectively which would lead to more efficacious treatments for current service members and veterans who have experienced combat.
This study was aimed at addressing certain unsettled issues in the literature on combat trauma survivors. The design attempted to measure, to the greatest extent possible, the variance between groups due to the independent variables surrounding exposure to combat trauma and current life events. This was a comparison in which Group 1 was combat veterans of the Battle of the Bulge in World War II and Group 2 was non-veterans with similar background characteristics. As one is not able to manipulate traumatic experiences as in a true experiment, this research was non-experimental in design. Since there was no random assignment or control over the independent variable, this type of study relied on sampling. The representativeness of the sample determined the generalizability and ultimate utility of this study's findings. This non-experimental epidemiological design was a cross-sectional study in which the information on war trauma was collected retrospectively and measured at one time. Epidemiological research begins with the notion that participants are not assigned at random to specific traumatic conditions for obvious ethical reasons. The population was sampled in terms of exposure to traumatic events, namely the Battle of the Bulge. A key objective in this cross-sectional epidemiological research was to select a representative sample of Battle of the Bulge combat veterans and a group of same age and gender non-veterans. This design involved comparing a group of Battle of the Bulge combat veterans to a group of same age non-veterans to explore current trauma symptomatology. The main strategy for minimizing confounding variables in this study was through the
use of statistical controls such as purposive sampling. The researcher controlled for the
effects of background characteristics such as age and gender in order to reduce these
confounds. Through homogeneous sampling, the subjects varied little on factors other
than those of interest in this study. The total correlation between early combat trauma
and current trauma symptomatology was examined in light of the Battle of the Bulge
veteran’s current life stressors and current social resources. This provided the basis to test
the hypothesis that Battle of the Bulge veterans would show more trauma
symptomatology than same-age non-veterans regardless of the number of life stressors or
amount of social support that they might have had.

Independent Variables

Briere (1997) set up a framework for the primary targets of assessment in
understanding posttraumatic states. Based on an extensive review of trauma literature,
the main targets of a thorough trauma study are as follows: (a) pre-trauma functioning,
(b) trauma exposure, (c) social support, (d) comorbidity (e) potential malingering (f)
posttraumatic response. The assessments chosen for this study addressed all of the
required areas noted above. The independent variables included (a) trauma exposure, (b)
current life stressors, and (c) current level of social support. Pretrauma functioning was
used as a participant descriptor and was assessed through questions on a demographic
questionnaire based on Briere’s traumatic events interview. Level of social support,
which has been shown to be associated with a more positive outcome after trauma, was
formally assessed through the Perceived Social Support measure (Briere, 1997). Also, life
stressors, which have been shown to lead to re-traumatization in some individuals, were
also formally assessed through the Louisville Older Person Events Scale (Murrell, 1984).
Trauma exposure was a factor for inclusion into the study. Veterans who participated had been exposed to combat trauma in the Battle of the Bulge. Those Battle of the Bulge veterans who were not assigned to a combat zone were not included in the study. The control group was not exposed to combat trauma at any time and had no military experience.

There were 3 main independent variables in this study. The first independent variable was exposure to combat trauma (1) yes or (2) no which became a discrete dichotomous variable. The other 2 independent variables were based on the scores on the Perceived Social Support-Friend Scale and the Perceived Social Support-Family Scale (Procidano and Heller, 1983) and the score on the Louisville Older Person Events Scale (Murrell, 1984). The scale scores on the Perceived Social Support Friend Scale and the Perceived Social Support Family scale yielded a combined single score to reflect social support. The Louisville Older Person Events Scale provided a single undesirable events score. Also, a questionnaire with specific background questions was also included. This asked for respondents to give specific demographic information such as race and ethnicity which was also used as classifying data to show differences between and within groups. This demographic sheet also included factors such as length of time exposed to trauma and number of years in the army.

Dependent Variables

Based on the aforementioned outline of variables to be included in a trauma study, a specific dependent variable was selected (Briere, 1997). This dependent variable looked specifically at posttraumatic response and psychological functioning. The dependent variable in this study was based on acute and chronic posttraumatic
This was obtained through the Penn Inventory for Posttraumatic Stress Disorder (Hammarberg, 1992). This assessment generates a total PTSD score, without subscales. Additionally, the Penn Inventory for Posttraumatic Stress Disorder has a cutoff score in place for dichotomous scoring. This will allow the researcher to take the continuous score (0-78) and place the participant in a PTSD or non-PTSD category for data analysis.

Participants

Power Analysis

A power analysis was conducted through the use of the G-Power analysis program (Faul and Erdfelder, 1992). A Hierarchical Multiple Regression Analysis was conducted based on 3 predictor variables and one dependent variable. Adequate power of .80 (at the .05 alpha level) for 3 predictor variables at a moderate overall effect size of (.15) required 77 subjects.

Respondents

Respondents were defined as United States Army veterans of the Battle of the Bulge who experienced some degree of combat trauma. Combat trauma was explained to the participants as witnessing traumatic injuries and/or dead bodies, and having been fired upon or having to fire at another human being. Through purposive sampling, a sufficiently comparable group of subjects was selected as a non-equivalent control group. The control group was defined by the following criteria: (a) if they answered "no" to the following questions "Did you serve in the military during World War II or any other time" (b) they were born between 1912 and 1927 (c) they were males who were U.S. citizens during World War II. Through the use of this specific set of questions, the
The researcher recruited subjects in order to minimize extraneous variance. Participants were recruited through telephone solicitation and through face-to-face contact. The Battle of the Bulge veterans were contacted through the New Jersey Chapter of the Veterans of the Battle of the Bulge (VBOB) which is a national organization. This chapter meets monthly at Picatinny Arsenal in Dover, NJ where a large portion of subjects were recruited. The balance of veterans was reached through contact with the leaders in other Battle of the Bulge Veterans chapters and clinical directors at New Jersey senior facilities.

The control group was recruited through cooperation with Northern New Jersey senior centers and retirement communities. Telephone solicitation was the preferred method for reaching those individuals who had been identified as meeting group inclusion characteristics but did not belong to the VBOB group or live in an assisted living facility. A letter of solicitation was also utilized for obtaining potential participants. The letter of solicitation introduced the purpose of the study, the voluntary nature of the study, confidentiality parameters, the measures to be completed, and a statement of Seton Hall University Institutional Review Board approval. Once the participant agreed to participate in the study, he was asked to complete the 11 question Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975). This procedure was used prior to the administration of the other two measures and was intended to screen out cognitively impaired subjects. The process was terminated if the subjects did not meet the requirements of the MMSE.

Informed consent was obtained through an IRB approved form which discussed the researcher’s affiliation, the purpose of the study, the procedures to be utilized, the
voluntary nature of the study, anonymity preservation, confidentiality maintenance, anticipated risks or discomforts, follow-up referrals for psychological concerns, and contact information. Finally, the informed consent form stated that the individual may withdraw from participation at any time without prejudice from the study.

Setting

The researcher went to the location of the participant to complete the measures. For the Veterans of the Battle of the Bulge organization, a sizable portion of the data collection was in the officer's club at Picatinny Arsenal in Dover, NJ. However, for those veterans who were not able to meet at this location, or for veterans of other chapters, individual home or room visits were conducted. The non-veteran control group's data was collected from residents' rooms or common areas at senior facilities and private residences. The researcher was with the participant during all administrations to answer questions and to administer the Mini Mental Status Examination.

Measures

The measures included in this study were chosen to yield reliable and valid estimates of the current degree of trauma symptomatology, life stressors, and social resources. There was also a measure of orientation and impairment which was included as a screening tool for participants. A thorough review of these instruments is presented in the following pages.

Demographic Sheet

The demographic form developed for this study contains six questions that reflect an individual's demographics. Some of the basic background information questions were
as follows: age, race/ethnic background, religious affiliation, economic status, and educational level.

**Mini Mental Status Exam**

The Mini Mental Status Examination is an 11-item measure designed to assess orientation, registration, attention, calculation, and language. It has interrater and test-retest reliabilities above .80, correlates with WAIS scores (.78 for Verbal IQ), and is sensitive to global and left hemisphere deficits (Groth-Marnat, 1997). This measure is a brief version of more comprehensive mental status examinations and will be used in the current study as an initial screening measure for the elderly participants. A score of less than 28 could suggest impairment and would disqualify an individual from participation.

**Penn Inventory for Posttraumatic Stress Disorder**

The Penn Inventory for PTSD (Hammarberg, 1992) is a 26-item self-report measure of the existence and severity of Posttraumatic Stress Disorder and allows for multiple traumas. This inventory is not restricted to military experience and is quite suitable for civilian-related PTSD as well. Items consist of four statements about a feeling or a thought that represent increasing levels of symptom intensity. The respondent chooses the statement that best describes him or her, and the corresponding value of the statement (ranging from 0-3) is the item score. This allows participants to locate themselves at different reference points. The scale generates a total PTSD score and does not contain subscales. A cutoff score (35) exists so that dichotomous decision making is possible.
This measure was normed in the self-report format on 83 Vietnam-era age matched veterans. The norming sample was comprised of three phases of participants. The first phase included the following: 28 Vietnam Combat veterans diagnosed with PTSD who were at various stages of a 90-day inpatient PTSD program at a Veterans Affairs (VA) medical center; 24 Vietnam combat veterans previously diagnosed with PTSD who had completed treatment at the same facility over 6 months before, 15 Vietnam-ere veterans without a diagnosis of PTSD recruited through veterans groups, and 16 non-veterans matched for age who were also without a PTSD diagnosis. Phase two contained 98 subjects who were age matched and selected in the same categories as in the first phase. The participants in phase two were as follows: 39 veterans diagnosed with PTSD, who were entering a 90-day PTSD treatment program at a VA medical center; 26 veterans previously diagnosed with PTSD who were at least 6 months post-treatment; 17 Vietnam-era veterans who were not diagnosed with PTSD; and 16 non-veterans matched for age who were not diagnosed with PTSD. The final phase consisted of the following 76 participants: 22 veterans diagnosed with PTSD who were in treatment on the PTSD treatment unit at a VA facility; 35 Vietnam-era veterans who were admitted to the admissions unit of the medical center for general psychiatric evaluation, 17 of which had previous PTSD diagnoses; and 19 survivors of the Piper Alpha oil rig disaster that occurred off the coast of Scotland in 1988, 16 of whom carried diagnoses of PTSD.

Hammarberg (1992) found this measure to have excellent reliability (.94) and stability over a 5-day period ($r = .96$). High hit rates with respect to PTSD diagnoses
were found for this scale. Sensitivities ranged from .90 to .98 across the norming samples, and specificities were 1.0, 0.94, and 0.61, respectively.

**Administration.** This instrument is suitable for assessing individuals who have previously been diagnosed with PTSD, those who have not been previously diagnosed but exhibit PTSD symptomatology, and those who have no PTSD symptomatology present. It is designed to be given to adults aged 18 and older and may be administered to individuals or groups. This measure should be administered in a comfortable and quiet environment with adequate lighting and space for the respondent(s) to work. The only requirements are a flat surface and a writing implement. This test must be administered in a self-report format. The Penn Inventory for Posttraumatic Stress Disorder takes approximately 20 minutes to administer.

**Scoring.** The Penn Inventory for Posttraumatic Stress Disorder may be hand-scored without the use of a scoring template. Each item in the Penn Inventory comprises four sentences modeled on the Beck Depression Inventory (Hammarberg, 1992). The meanings of the series of sentences measure the presence of symptoms by the presence or absence of PTSD symptoms as well as their degree, frequency, and intensity. The four sentences resemble the following: (0) I have not experienced a major trauma in my life; (1) I have experienced one or more traumas of limited intensity; (2) I have experienced very intense and upsetting traumas; (3) The traumas I have experienced were so intense that memories of them intrude on my mind without warning. The scores of each of the 26 items are added up to yield a continuous score of 0-78 and this measure carries a cut-
A score of 35 or higher indicates a diagnostic classification for PTSD based on the DSM-IV diagnostic criteria (Hammarberg, 1992).

Reliability. At the completion of test construction and standardization, this measure was analyzed for internal consistency in the standardization sample through a multivariate analysis. The results showed acceptable levels of constancy and reliability. The internal consistency for the Penn Inventory was .94 across all subjects and .86 for those in treatment, .94 for those in posttreatment, .92 for veterans, and .78 for non-veterans. The average of each item’s correlation with the uncorrected total score was .75 with a range of .43 to .90. In terms of test-retest reliability, analysis yielded a score of .96 for all participants and .86 for those in treatment, .87 for those in posttreatment, .93 for veterans, and .90 for non-veterans. The average of each item’s test-retest reliability was .78 with a range of .58 to .87.

Validity. The Penn Inventory for Posttraumatic Stress Disorder displays validity in relation to a structured clinical PTSD diagnosis, measures of combat exposures, and measures of PTSD symptom dimensions. In the validation stage of this instrument, clinically certified PTSD participants responded to four pre-existing measures that were aimed at identifying PTSD: a fully structured diagnostic PTSD interview schedule used for assessing criteria symptoms of PTSD, a checklist of PTSD symptoms, the Mississippi Scale for Combat-Related PTSD, and the Impact of Event Scale (Hammarberg, 1992). The fully structured PTSD interview and the Mississippi Scale for Combat-Related PTSD had been previously identified as the best predictors of the
clinical Diagnosis of PTSD based on the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association, 1980).

Analysis of variance between groups yielded significance between the norming sample groups. There was no significant difference in mean scores between the in-treatment and post treatment group, or between the veteran and non-veteran groups. However, both in-treatment and post treatment group means were significantly different from means for the non-PTSD veteran and non-veteran groups. These findings support the ability of the Penn Inventory to differentiate between PTSD and non-PTSD groups. The results also indicated that this measure supported the basic diagnostic classification of the participants. Using all 83 cases, sensitivity was 90% which means that 90% of the participants who were diagnosed with PTSD were correctly identified by a Penn Inventory score of 35 or above. The sensitivities ranged from .90 to .98 across the three phases, and specificities were 1.0, .94, and .61 respectively. In the norming sample, 5 out of 52 cases with a positive PTSD diagnosis were identified as false negatives.

In terms of correlational validity, the Penn Inventory was correlated with already validated instruments. The first, the Combat Exposure Scale, is an indirect measure of the probable extent of traumatic stressors due to military service. A Pearson product-moment correlation between the Penn Inventory and the Combat Exposure Scale (for those who served in Vietnam) was .37 (n = 62, p <.01). The coefficient of multiple determination for the series of the Penn Inventory scales on aspects of PTSD was .75, $F(5,75) = 45.7, p < .0001$ with the Combat Exposure Scale. The results were interpreted to mean that the linear combination of the following scales: intrusive memories, emotional unresponsiveness, level of felt stress, level of felt anger, and diminished sense...
of self control accounted for 75% of the variation in the Penn Inventory Scores (Hammarberg, 1992). Finally, the Beck Depression Inventory and the Beck Anxiety Inventory Scores were positively correlated with the Penn Inventory scores ($r = .84$ and $r = .56$, respectively; $n = 52$, both $p<.0001$). The Penn Inventory was also compared to the Mississippi Scale for Combat-Related PTSD. The Penn Inventory was less specific than the Mississippi Scale and more sensitive; it provided 7 false positives and 1 false negative over 57 cases, whereas the Mississippi scale provided 5 false positives and 2 false negatives. Overall, however, the Penn Inventory compared favorably with the Mississippi scale. The Penn Inventory correlated at .72 ($p<.0005$) with the Impact of Event Scale and with its two subcomponents: Avoidance ($r = .59, p<.008$) and Intrusion ($r = .75, p < .0002$). The findings on differential and concurrent validity, and the patterns of correlation coefficients confirmed that comparable responses to the Penn Inventory and other measures of the same latent variable were elicited from the two different samples.

**Perceived Social Support Scale**

The Perceived Social Support Scale is a combination of two 20-item measures; the Perceived Social Support Scale-Friend (PSS-Fr) and the Perceived Social Support Scale-Family (PSS-Fa). Both measures are designed to determine the degree to which an individual perceives his or her needs for support as being met by friends and family (Procidano and Heller, 1983). These two measures have been psychometrically determined as related but separate and valid constructs. The PSS-Fr is a self-report inventory which contains 20 questions which are answered with one of the following
responses: yes, no, or don't know. An example of a question to be answered on this measure would be the following: My friends enjoy hearing what I think. The PSS-Fa is a similar format which also contains 20 questions which are answered in the three point Likert style manner. I rely on my family for emotional support, is an example of a question from the PSS-Fa. The scores for each measure are tallied up by hand. Scale scores are the total of item scores and range from 0-20 for both measures. Higher scores represent more perceived social support. The scores of both measures can be combined to yield an overall social support score.

Both of the PSS measures are internally consistent and measure valid constructs that are separate from other and from other measures of the same latent variable. The PSS-Fr and the PSS-Fa are both inversely related to symptoms of distress and psychopathology yet the relationship is stronger for the PSS-Fa (Procidano and Heller, 1983). The PSS-Fr is more closely related to social competence than the PSS-Fa. Also, the PSS-Fa is unaffected by respondent's mood states. Procidano & Heller (1993) found that the PSS-Fr total score is lowered by negative mood states in participants. Higher scores on the PSS-Fr are found to be associated with lower trait anxiety than lower scores on the PSS-Fr.

**Administration.** The PSS-Fr and PSS-Fa are appropriate for adults aged 18 or older. Both are a self-report format which are able to be administered to individuals or to groups and each takes 15 minutes or less for a respondent to complete. This battery of two tests is to be administered in a quiet setting with a hard surface and adequate lighting. It may be
completed with pen or pencil and the respondent can read the instructions himself or herself.

Scoring. The PSS scales are easily hand-scoreable and higher scores reflect more perceived social support. The PSS-Fr and the PSS-Fa are scored "yes," "no," and "don't know." On both scales, "don't know" is scored as 0. On the PSS-Fr a response of "no" is scored +1 for items 2, 6, 7, 15, 18, and 20. For the remaining items "yes" is scored +1. For the PSS-Fa, responses of "no" to items 3, 4, 16, 19, and 20 are scored +1, and for all other items a "yes" answer is scored +1. The scale scores are the total of item scores and range from 0 to 20 for both the PSS-Fr and the PSS-Fa. A higher score represents more perceived social support.

This measure was normed on a sample of 222 undergraduate psychology students (mean age = 19). It was designed to be used on all adults ages 18 and over. Rice & Longabauch (1996) were successful in applying this measure to a sample of alcoholic patients with a mean age of 40.2. In regards to the original norming sample, the standard deviations for the PSS-Fr and PSS-Fa were 15.15 (SD= 5.08) and 13.40 (SD= 4.83) respectively. Participants were divided into three groups which each received a different battery of instruments. The PSS-Fr and PSS-Fa proved to be homogeneous measures with Cronbach's alpha of .88 and .90 respectively. Factor analysis also determined that each measure was composed of a single factor based on the author's final item selection.

Reliability. Procidano & Heller (1983) conducted three validation studies of the Perceived Social Support Scale-Friend and Perceived Social Support Scale-Family. The
first study based on 222 undergraduate students showed that both of these had excellent reliability. The PSS-Fr and the PSS-Fa scales are both internally consistent, with an alpha of .90. In the first study, this battery had one-month test-retest reliability of .83. This was based on the PSS before it was broken down according to specific latent variables of perceived family support and perceived friend support (Procidano and Heller, 1983). The second study was based on 105 undergraduate students who completed a battery of instruments including the PSS-Fr and PSS-Fa. The final study was also based on 105 undergraduate students (mean age = 20.5). Alphas for this final sample of participants ranged from .88 to .91 on the PSS-Fa and .84 to .90 for the PSS-Fr. The psychometric data for the PSS-Fr and PSS-Fa revealed that both instruments have excellent internal consistency and adequate test-retest reliability.

Validity. The PSS-Fr and the PSS-Fa measure valid constructs that are separate from each other and other similar measures. The PSS-Fr and PSS-Fa have good concurrent validity and the scores on both measures are correlated with psychological distress and social competence. However, the relationship to symptoms of distress and psychopathology was stronger for the PSS-Fa. The three validity studies conducted by Procidano and Heller (1983) found that scores on the PSS-Fr were predicted by length of time a participant was a member of his or her social network and the degree of reciprocity in that relationship. Tangible and intangible support of family members was found to predict scores on the PSS-Fa. The PSS measures are fairly good predictors of the amount of disclosing behavior exhibited with companions. Study 1 showed that the PSS-Fr is related to social competence. Additionally, higher scores on this test denote participants
who are lower in trait anxiety and are more open in talking about themselves to companions, regardless of whether the companions were friends or family members. Low PSS-Fr participants in the validation study showed more verbal inhibition in the presence of friends. Participants who were categorized as high or low in perceived support differed in the verbal disclosure. This supports the measures' known-groups validity. Scores on the PSS-Fa were predicted by intangible and tangible support from family members. The PSS was also correlated with the California Personality Inventory. Clinical and non-clinical samples yielded different scores on both measures.

Louisville Older Person Events Scale

The Louisville Older Person Events Scale (LOPES) is a 54-item self-report inventory which was developed to measure the particular events most pertinent to life within the elderly population (Murrell and Norris, 1991). This measure provides a look into the current life stressors that are experienced by an elderly individual. The questions are specific to events that a person might encounter in his or her elderly years. Respondents are asked whether they had experienced each of the 54 events during the previous 6 months. For each event that is asked, the participant is asked to rate the desirability of the event on a 7-point Likert scale. In terms of desirability, the possible responses vary from very good to very bad. The undesirable event score represents the sum of all of the appraisals for events during the previous 6-months.

This measure contains events that cover a wide variety of domains that an elderly individual might encounter. Experiences such as bereavement, other social losses, material or job loss, and physical illness are the major domains. Bereavement includes
the following: child died, grandchild died, parent died, friend died, spouse died, and sibling died. Social losses were as follows: friend moved, stopped church activities, stopped regular recreation activities, acquaintance committed suicide, lost pet, and child left home. Material or job loss referred to the following: lost home, lost job or business, lost income (not due to job loss), and retirement. Finally, physical illness is a single item on the measure which accounts for a new illness or injury.

Administration. This instrument is designed for assessing elderly adults and may be administered to individuals or groups. This population can easily complete this measure although it should be administered in a quiet setting with adequate lighting. The only requirements are a flat surface and a writing implement. It takes 30 minutes or less for the respondent to complete the self-report format.

Scoring. The Louisville Older Persons Event Scale may be hand scored without the need of a template. Respondents will rate each event that has occurred in the previous 6 months and choose the desirability of the event on a 7-point scale. The item responses based on desirability ratings for each of the 54 event descriptions range from very bad (-3) to very good (+3). For each event, an endorsed item is given 1 point to the final score. The total undesirable event score is the sum of all of the selected undesirable item’s scores.

Reliability. The LOPES has been developed after extensive pre-testing on older adults. Murrell, Norris, and Hutchins (1984) conducted a study of his measure on a population.
similar to that of his original norming sample. They selected 1172 male and 1758 female participants (ages 55-73+) and administered the LOPES to test the psychometric properties of this previously validated measure. The attempt was made to utilize the original estimating sample. However, 31% of males and 29% of the females could not be re-interviewed for various reasons including deaths, institutionalizations and hospitalizations, refusals, and invalid previous interviews. Married persons were more likely to drop out of the study than non-married persons, but dropouts did not differ from respondents in other factors such as age, residence, or physical health. Dropouts in the second study had reported significantly fewer events (3.28 versus 3.64) in the first study. The undesirable life events scales proved to be relatively stable over time from the original standardization sample. However, as is the case with all life events scales, individual life events are constantly changing making it difficult to report traditional reliability psychometrics (Murrell et al., 1984). The scale was designed with many life events suggested by the older participants themselves as well as those from previously developed instruments. In the follow up study, a similar ranking of life events was revealed which was congruent with the original sample's selection of events and rankings. Also, the frequencies of life events proved to be moderately stable over the 3 year interval, yet it is not possible to report this as traditional test-retest statistics as individual life events are in a constant state of change. Murrell et al. (1984) reported that due to the large number of participants who evaluated the impact of events in both studies the included 54 items are reliable desirability estimates of life events for this population.
Validity. The Louisville Older Persons Event Scale was designed to identify and evaluate the impacts of life events on an older individual. This instrument captures both positively and negatively perceived life events. Murrell and Norris (1991) found high correlations when evaluating these events on individual's positive well-being as well as negative well-being. In a sample of 1,117 older adults that had responded to a pretest request for clinical testing, those that were deemed to be depressed based on their responses to the 20-item Center for Epidemiologic Studies for Depression Scale (Radloff, 1977), were noted as having a Cronbach alpha correlation of .88 with the LOPES. Construct validity of the Louisville Older Person Event Scale was substantiated through prospective analyses. Murrell et al. (1984) examined the associations between life events and psychological symptoms. These associations were looked at through a panel study of interviews obtained from 3 samples older adults: 45 persons who has recently lost a spouse, 40 who had lost a parent or child, and 45 who were not bereaved. Assessments using the LOPES, Center for Epidemiologic Studies Depression (CES-D) Scale, and General Health Scale were conducted before and after the deaths. In this study, life events and resources as measured through the LOPES had stronger effects in the widowed sample than the comparison samples. According to this, this measure has been found to be predictive of psychological symptoms, a finding which lends some confidence in its validity as a measure of perceived stress (Murrell and Norris, 1991). A high undesirable life events score indicates high stress. The LOPES also has been reported as having very good face validity. Additionally, this measure has good construct validity as is reported by its ability to obtain the latent variable of undesirable and desirable life events in two large samples of older adults. The frequencies and rankings
of the life events were similar in the norming study and a follow-up analysis 3 years later. Also, the items on this measure were taken from previously validated measures of life events measures and through interviews from older persons themselves.

Procedure

The researcher initially generated a list of all of the regional members of the Veterans of the Battle of the Bulge organization. Concomitantly, a list was generated of all of the non-veteran males at senior centers and retirement communities in the Northern New Jersey area who met the background requirements. Directors of these communities were contacted and presentation dates were set up to introduce this study. Other Battle of the Bulge veterans and non-veteran participants were identified based on leads generated from the two lists and meetings cited above. The president of the North and South Jersey Chapters of the VBOB organization, and the Philadelphia and Lehigh Valley Pennsylvania VBOB chapters were solicited by telephone to request an appearance at one of their meetings. At these meeting, the purpose of this project was discussed to the members present and appointments were set up with volunteers. A letter of solicitation, which had been approved by the Seton Hall University Institutional Review Board, was also handed out at this time. A similar presentation was made to the directors of several retirement facilities and senior center group leaders which included the letter of solicitation. This letter was in large type so that the prospective volunteers were able to read it. Those who could not be reached in person on these site visits were contacted via telephone. I introduced myself and the research project with information similar to the solicitation letter. This information included the following:
"I am a third year doctoral student in the Counseling Psychology program at Seton Hall University and am collecting data for my dissertation research. The purpose of this study is to investigate the adjustment of older adults later in life. The research is interested in looking at your current experiences and social resources. Two groups of individuals are needed for this study. The first group will be combat veterans of the Battle of the Bulge who meet the following criteria: you were in the Battle of the Bulge in World War II, you experienced combat, and you were in the army. The second group will be defined by the following criteria: you were born between 1912 and 1927, you are male who was a U.S. citizen during World War II, you did not serve in the military. If you meet the criteria for either group you may participate. As a participant in this study, you will be administered four questionnaires. There will also be a question sheet included which will ask you some basic demographic information. The entire process should take approximately an hour and a half to complete. This may be broken up into two visits if you desire. Participation in this study is completely voluntary. Should you choose not to participate, you may do so without penalty. You may also discontinue participation at any time during the study if you so choose."

After subjects agreed to participate the researcher set up a time and a place to meet them for data collection. Before any data was collected an informed consent form, which adhered to the specific Institutional Review Board Requirements, was handed out. If the individual decided to sign, then he was given the Mini-Mental Status Examination. With a score above 28 the individual was permitted to continue. He was then given the basic demographic sheet, followed by the Penn Inventory for Posttraumatic Stress Disorder (Hammarberg, 1992), the Perceived Social Support-Friend Scale, the Perceived
Social Support-Family Scale (Procidano and Keller, 1983), and the Louisville Older Person Events Scale (Murrell et al., 1984). After completion of the survey there was a period for any debriefing that might have been needed accompanied by numbers for psychological referrals. The respondents completed the survey packets in roughly 1 hour with 45 minutes being the most rapid completion and around 3 hours the longest. The surveys were designed so as not to create any discomfort for the participants; however, referrals were made available through the New Jersey Psychological Association and with the clinical staff at the various retirement communities. If interviews were conducted out of state, referrals were given through that state’s psychological association. Finally, the subject was given the number of the researcher’s mentor should he have had any further questions, this number also appeared on the informed consent form which was given to each volunteer.

Study Design and Statistical Procedures

Research Hypotheses

1. Battle of the Bulge veterans’ exposure to combat trauma will predict PTSD symptoms currently.

2. The Battle of the Bulge combat veterans will show more trauma symptomatology than the non-veteran group regardless of the amount of current life stressors they report.

3. Battle of the Bulge combat veterans will show more trauma symptomatology than non-veterans regardless of the amount of social support they report.
Research Hypothesis 1. The three independent variables were exposure to combat trauma (yes or no), the scores from the Perceived Social Support-Friend Scale and the Perceived Social Support-Family Scale, and the Louisville Older Person Events Scale. The dependent variable was the total score from the Penn Inventory for Posttraumatic Stress Disorder. A Hierarchical Multiple Regression was used to investigate the predictability of the independent variable of combat exposure on the score of the dependent variable while controlling for social support and life stressors. The order of entry of the three independent variables was the following: social support and life stressors followed by combat exposure.

Research Hypothesis 2. The three independent variables were exposure to combat trauma (yes or no), the scores from the Perceived Social Support Scale, and the Louisville Older Person Events Scale score. The dependent variable was the total score from the Penn Inventory for Posttraumatic Stress Disorder. A Hierarchical Multiple Regression was run with all three independent variables entered as individual predictor variables. The order of entry of the variables began with social support and current life stressors entered one at a time followed by trauma exposure last. This should have removed any variance that social support and life stressors accounted for on the dependent variable leaving the effect of combat exposure to account for the remaining variance.

Research Hypothesis 3. The three independent variables were exposure to combat trauma (yes or no), the scores from the Perceived Social Support Scale, and the Louisville Older Person Events Scale score. The dependent variable was the total score from the Penn
Inventory for Posttraumatic Stress Disorder. A hierarchical multiple regression was run with all three independent variables entered as individual predictor variables. The order of entry of the variables began with social support and current life stressors entered one at a time followed by trauma exposure last. This should have removed any variance that social support and life stressors accounted for on the dependent variable leaving the effect of combat exposure to account for the remaining variance.
Chapter IV

Analysis of the Data

The purpose of this study was to test the hypothesis that there would be current trauma symptomatology in a group of Battle of the Bulge World War II combat veterans currently. Additionally, this study was aimed at seeing if the Battle of the Bulge combat veterans showed more trauma symptomatology than a same-age non-veteran group with similar demographics. The investigation included three independent variables which are often selected by researchers in assessments of exposure to trauma. These were: (a) exposure to combat trauma; (b) perceived social support, friends and family; and (c) current stressful life events. The study also had one dependent variable, namely the participant's score on the Penn Inventory for Posttraumatic Stress Disorder.

The present chapter will provide a description of the results of the collected data. The data collection process will be described first followed by a thorough description of the participants. Hypotheses were tested via hierarchical regression analysis.

Description of Participants

Demographic Questionnaire

The combat veteran sample was composed of 39 members of the Northern New Jersey, Southern New Jersey, Philadelphia, and Lehigh Valley chapters of the Veterans of the Battle national organization. The non-veteran sample was drawn from Northern New Jersey senior centers and retirement communities.

A total of 80 survey packets were given to potential participants. The researcher sat with each individual as he completed the survey. Two packets were discontinued and
Tables 1-3 display general descriptive information for those 78 participants. Demographic information across the two groups is also provided. The participants ranged in age from 76 to 92 ($M = 82.5$, $SD = 4.2$) with the majority of the men sampled being 78 to 82. The combat veteran group ranged in age from 77 to 87 ($M = 80.56$, $SD = 2.4$) while the non-veterans ranged in age from 76 to 92 ($M = 84.59$, $SD = 4.62$). Approximately 97% of the total group were Caucasian, 1% African American, and 1% Hispanic. No other races or ethnicities were represented in the current sample. The combat veteran group consisted of 38 Caucasians and 1 African American with the non-veteran group including 38 Caucasians and 1 Hispanic. One fifth of the total sample was Catholic; while approximately 11% indicated that they were Jewish, and 60% were Protestant. The combat veteran group reported that they were 66% Protestant, 15% Catholic, with 15% reporting being Jewish. Non-veterans were 57% Protestant, largely comprised of United Church of Christ members 18%, 28% Catholic, and 8% Jewish. Over half of the total sample reported being middle class, and about 19% stated that they were upper middle class. Seventy-seven percent of the combat veteran group reported being middle class, roughly 12% stated that they were upper middle class, with the remaining 11% indicating inclusion into upper, lower, or working Class. The non-veterans were 57% middle class, 26% upper middle class, 10% lower middle class, and 7% working class. Participants were asked to report the highest level of education that they had achieved. In response, 36% of the total sample reported that they had obtained a bachelor's degree and 26% had a high school diploma. Forty-six percent of the combat veteran group reported having a
bachelor's degree, 20% high school diploma, 20% graduate degree, 3% trade school, 3% some high school, and 8% some college. The non-veteran sample’s reported education consisted of 31% high school diploma, 25% bachelor’s degree, 21% graduate degree, 2% some college, 3% some graduate school, 5% trade school, 8% some high school, and 5% some elementary school. Table 3 highlights the details of the participants’ education.

Table 1

<table>
<thead>
<tr>
<th>Religion</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catholic</td>
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<td>20.5</td>
</tr>
<tr>
<td>Jewish</td>
<td>9</td>
<td>11.5</td>
</tr>
<tr>
<td>Protestant</td>
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<td>11.5</td>
</tr>
<tr>
<td>Lutheran</td>
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<td>11.5</td>
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<td>Methodist</td>
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<tr>
<td>Episcopalian</td>
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<td>5.1</td>
</tr>
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<td>Presbyterian</td>
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<td>11.5</td>
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<tr>
<td>Baptist</td>
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<td>2.6</td>
</tr>
<tr>
<td>United Church of Christ</td>
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<td>11.5</td>
</tr>
<tr>
<td>Atheist</td>
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</tr>
<tr>
<td>None</td>
<td>4</td>
<td>5.1</td>
</tr>
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</table>

Note. N = 78.
### Table 2

**Demographic Characteristics—Self-reported Economic Status**

<table>
<thead>
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<th>Economic Status</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
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<td>Middle Class</td>
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<tr>
<td>Working Class</td>
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<tr>
<td>Upper Middle Class</td>
<td>15</td>
<td>19.2</td>
</tr>
<tr>
<td>Lower Middle Class</td>
<td>6</td>
<td>7.7</td>
</tr>
</tbody>
</table>

*Note. N = 78.*

### Table 3

**Demographic Characteristics—Level of Education**

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some Elementary School</td>
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<td>2.6</td>
</tr>
<tr>
<td>Some High School</td>
<td>4</td>
<td>5.1</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>20</td>
<td>25.6</td>
</tr>
<tr>
<td>Trade School Degree</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Some College</td>
<td>4</td>
<td>5.1</td>
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<tr>
<td>College Degree</td>
<td>28</td>
<td>35.9</td>
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<td>Master's Degree</td>
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<td>Some Graduate School</td>
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<tr>
<td>Doctorate</td>
<td>3</td>
<td>3.8</td>
</tr>
<tr>
<td>Jurist Doctorate</td>
<td>2</td>
<td>2.6</td>
</tr>
</tbody>
</table>

*Note. N = 78.*
Participants’ Scores on Measures

To test the hypothesis that exposure to combat trauma will result in higher scores on a measure of Post-Traumatic Stress Disorder, the recommendations of Briere (1997) were followed to use specific methods for trauma research with adults. These included the use of measures designed specifically to address prior exposure to traumatic events, current reported family and friend support, and current stressful events. This section will look in detail at the respondents’ endorsements on the following instruments: The Penn Inventory for Posttraumatic Stress Disorder (Hammarberg, 1992), The Perceived Social Support Scale (Procidano and Heller, 1983), and the Louisville Older Person Events Scale (Murrell et al., 1984). Tables 4-6 provide the specific statistics.

Penn Inventory for Posttraumatic Stress Disorder: This inventory is a 26-item self-report measure of the existence and severity of Posttraumatic Stress Disorder and allows for combat trauma. The respondent chooses the statement that best describes him or her, and the corresponding value (0-3) is the item score. The higher the score, the greater the symptoms of PTSD. A score of 35 or higher indicates a diagnostic classification for PTSD based on DSM-IV diagnostic criteria (Hammarberg, 1992). In the total sample, three men (3.8%) who were all veterans exhibited a score of 35 or higher indicating diagnosable Posttraumatic Stress Disorder. None of the non-veteran group met the cutoff score for PTSD. In this sample, mean scores for the combat veteran group (N = 39) averaged 19.46 with a standard deviation of 10.79. The mean scores for the non-veteran group (N = 39) averaged 13.74 with a standard deviation of 6.33. Participants in the veteran group reported significantly higher levels of PTSD symptomatology (M = 19.46) than non-veteran participants (M = 13.74), t(76) = 2.84.
There were 3 extreme scores in the combat veteran group; however, when these scores were eliminated and the t test was repeated the difference between group scores remained significant. This provides preliminary support for the second research hypothesis because the veteran group did, in fact, report higher symptoms of PTSD than the non-veterans group. The mean score for the entire sample (N = 78) was 16.60 with a standard deviation of 9.19. The possible range on this measure was 0-78. The actual range for the research sample was 4-52. See tables 4-6.

The Perceived Social Support Scale (Procidano and Heller, 1983) is a combination of two 20-item measures; the Perceived Social Support Scale-Friend (Pss-Fr) and the Perceived Social Support-Family (Pss-Fa). These measures were designed to determine the degree to which a respondent perceives his or her needs for support are being met by friends and family. This inventory, taken as a whole, contains 40 questions which are answered with one of the following responses (“yes, no, or don’t know”). Higher scores represent more perceived social support. The mean score for the total sample (N = 78) was 27.35 with a standard deviation of 8.77. The possible range on this measure was 0-40. The actual range for the research sample was 3-40. It should be noted that prior research has demonstrated that social resources are stable life context factors which influence effective coping strategies in trauma victims (Briere, 1997). In this study, perceived social support was not included as a predictor variable but rather, its influence on combat trauma was controlled for in the analysis. The Louisville Older Person Events Scale (Murrell et al., 1984) is a 54-item self-report inventory which was developed to measure the particular events most pertinent to life within the elderly population. Respondents are asked whether they had experienced each of 54 events...
during the previous six months. For each event that is asked, the participant is asked to rate the desirability of the event on a 7 point Likert scale. The possible responses vary from (very bad to very good) with a higher score indicating more current undesirable life events. The mean score for the entire sample \((N = 78)\) was 7.38 with a standard deviation of 4.91. The possible range on this measure was 0-162. The actual range for the research sample was 0-22. Overall, it is evident that the current sample has not experienced recent significant events in general. Refer to tables 4-6 for descriptive statistics for independent and dependent variables.

Table 4

**Total sample descriptive statistics**

<table>
<thead>
<tr>
<th>Description</th>
<th>Possible Range</th>
<th>Actual Range</th>
<th>(M)</th>
<th>SD</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn Inventory</td>
<td>0-78</td>
<td>4-52</td>
<td>16.60</td>
<td>9.19</td>
<td>15.00</td>
</tr>
<tr>
<td>Social Support</td>
<td>0-40</td>
<td>3-40</td>
<td>27.35</td>
<td>8.77</td>
<td>30.00</td>
</tr>
<tr>
<td>Undesirable Events</td>
<td>0-162</td>
<td>0-22</td>
<td>7.38</td>
<td>4.91</td>
<td>7.00</td>
</tr>
</tbody>
</table>

*Note. \(N = 78\).*

Table 5

**Combat veteran descriptive statistics**

<table>
<thead>
<tr>
<th>Description</th>
<th>Possible Range</th>
<th>Actual Range</th>
<th>(M)</th>
<th>SD</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn Inventory</td>
<td>0-78</td>
<td>6-52</td>
<td>19.46</td>
<td>10.79</td>
<td>16.00</td>
</tr>
<tr>
<td>Social Support</td>
<td>0-40</td>
<td>3-38</td>
<td>26.0</td>
<td>9.49</td>
<td>29.00</td>
</tr>
<tr>
<td>Undesirable Events</td>
<td>0-162</td>
<td>0-22</td>
<td>8.13</td>
<td>5.06</td>
<td>7.00</td>
</tr>
</tbody>
</table>

*Note. \(N = 39\).*
Table 6

Non-veteran descriptive statistics

<table>
<thead>
<tr>
<th>Description</th>
<th>Possible Range</th>
<th>Actual Range</th>
<th>M</th>
<th>SD</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penn Inventory</td>
<td>0-78</td>
<td>5-30</td>
<td>13.74</td>
<td>6.33</td>
<td>12.00</td>
</tr>
<tr>
<td>Social Support</td>
<td>0-40</td>
<td>5-40</td>
<td>28.69</td>
<td>7.89</td>
<td>30.00</td>
</tr>
<tr>
<td>Undesirable Events</td>
<td>0-162</td>
<td>0-18</td>
<td>6.64</td>
<td>4.72</td>
<td>6.00</td>
</tr>
</tbody>
</table>

Note. N= 39.

Assumptions of the Data

Intercorrelations for Observed Variables

An inspection of the correlations showed that the relationships were generally as might have been expected. The independent variable exposure to combat trauma was significantly and positively correlated with scores on the Penn Inventory for Posttraumatic Stress Disorder. Perceived Social Support was significantly and positively correlated with the Penn Inventory which is not surprising based on Briere’s (1997) finding that social support is associated with a more positive outcome after a stressful event. Although Perceived Social Support was controlled as a predictor variable in this study, it would be interesting to investigate this significant relationship in the future. The current undesirable life events did not yield any significant correlations. This may be due to the restricted range found in the current sample. In all, the predictive factor of being exposed to combat trauma did significantly correlate with scores on the measure of PTSD which supports the research hypothesis that exposure to combat trauma is related to trauma symptomatology. Table 7 provides a more detailed view of the correlations.
Hierarchical regression analysis was used to assess the predictive effects of the variables combat trauma, social support, and current undesirable life events on the criterion variable, posttraumatic stress disorder symptoms (Total score of Penn Inventory for PTSD). In order to determine the degree to which exposure to combat trauma made unique contributions to the prediction of symptoms of posttraumatic stress, the order of variable entry was purposely determined. In order to meet the most rigid criteria and take the most conservative approach, combat trauma was entered as the last step. For analysis, perceived social support was entered in the first step. This would control for the influence of this variable. Both combat veterans' and non-veterans' reports of current undesirable life events were entered in the second step to control for the variance accounted for by it. In the third and final step, exposure to combat trauma was entered to account for the remaining variance in the model. Results of the analysis supported the research hypothesis. Exposure to combat trauma was a positive predictor of Posttraumatic Stress Disorder as measured by the Penn Inventory for PTSD (Hammarberg, 1992), $\beta (1,76) =$
.26, p < .05, $R^2 = .06$. Combat trauma accounted for significant unique variance of 6%. After controlling for social support and current undesirable life events, combat trauma was a significant predictor of PTSD symptoms confirming the research hypotheses. Table 8 displays the hierarchical regression analysis of the independent variables on the PTSD measure.

Table 8

Hierarchical Regression Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$\Delta R^2$</th>
<th>$df$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Social Support</td>
<td>-.317**</td>
<td>.10</td>
<td>(1,76)</td>
</tr>
<tr>
<td>Undesirable Life Events</td>
<td>.071</td>
<td>.012</td>
<td>(1,76)</td>
</tr>
<tr>
<td>Exposure to Combat Trauma</td>
<td>.259**</td>
<td>.064</td>
<td>(1,76)</td>
</tr>
</tbody>
</table>

Note. $N = 78$. ** $p < .05$. 

Chapter V
Conclusions and Recommendations

This chapter is comprised of three sections. In the first section, the purpose and significance of the study is revisited. The second portion will discuss the results of the study, as well as introduce conclusions based on the results generated. Finally, the third section of this chapter will address the recommendations for future research as well as recommendations for military psychologists working with soldiers, sailors, marines, and airmen in current conflicts and those yet to come.

Summary

There is vast scientific evidence that the brain and body represent a single system where an injury to one affects the other. Throughout history, humankind has attempted to deny various aspects of human psychological vulnerability, labeling them as not applicable to those who possess courage and honor. Historical anecdotes dating back to the time of Homer’s *Iliad* mirror the reactions of combatants throughout time and across cultures. The human reaction to participation in combat is highly varied and many soldiers cope without being stifled by mental health injuries. However, an estimated 10% to 30% of combatants sustain a combat stress reaction (Dekel, Solomon, Ginzburg, & Neria, 2003). Combat stress reaction is characterized by restlessness, psychomotor difficulties, withdrawal, increased sympathetic nervous system activity, stuttering, confusion, nausea, vomiting and paranoid responses. Most current armies recognize these symptoms as some form of battle stress and take these warriors out of the combat zone, as they endanger themselves and others. Although there is also variability in the long-term reactions to combat, between 10% and 20% of combatants develop...
posttraumatic stress disorder (PTSD). This is marked by a variety of intrusive, avoidance, and hyperarousal symptoms and often accompanied by heightened anxiety, depression, and hostility. Of those who develop PTSD, some recover within a short time while others become chronically affected (Shephard 2001).

Over the years, some armed forces such as the United States have added psychologists trained in combat stress control as proactive measures to prevent combat stress reactions. These programs combine psychoeducation and immediate psychiatric triage in echelons close to or in combat zones. Those soldiers that are truly exhibiting signs of combat stress are sent to a higher echelon of care further away from the danger zone. Many current military psychologists are researching combat readiness factors and what makes some soldiers able to handle the rigors of combat while others become casualties. Griffith (2002) found that a soldier's experience of supportive unit leadership, cooperative peer relations, and overall group cohesion enhances combat readiness. However, even with the increased awareness and understanding that science has on reactions to combat stress, it remains as much a problem in Iraq today as it did 27 centuries ago.

According to the commander of Landstuhl Regional Army Medical Center in Germany, as many as 10% of soldiers evacuated from the current conflicts in Iraq and Afghanistan had mental health problems. In addition, recent statistics report that between 8% and 10% of the nearly 12,000 soldiers from the war on terror, mostly from Iraq, treated at the Landstuhl Regional Medical Center had psychiatric or behavioral health issues. This means that about 1,000 soldiers were evacuated solely for mental health problems. The commander also reported that roughly 8% to 10% of U.S. casualties have
some psychiatric or behavioral health issues. This number excludes those soldiers who arrived at the hospital for physical injuries. It also does not account for those soldiers who have not realized that they suffer from any lasting psychological effects of combat until they returned to the United States (R. Cornum) personal communication, February 19, 2004)

There have been countless scholarly works investigating the long-term reactions to early combat stress conducted on many veterans with a special emphasis placed on Vietnam veterans. Wilkins (1997) found that individuals with a prior combat stress history were more likely to have provoked or reactivated PTSD symptoms based on new stressful experiences. His research, which compared Vietnam combat veterans to Gulf War combat veterans, showed much higher rates of PTSD in the Vietnam than the Persian Gulf War group. This study brings into question how age might be a factor in delayed onset PTSD. There are many studies which show evidence of latent PTSD which can be triggered as one ages and encounters new stressful events. Additionally, transitions such as retirement provide a time of reflection and a loss of the ability to deny intrusive memories by workaholism (Amir et al., 1996).

There is currently a lack of research which has followed World War II veterans who have experienced combat trauma through their elderly years. Averill & Beck (2000) pointed out that much of the data that does exist is based on those individuals who have sought treatment and is not truly representative of a non-clinical population. Also, older adults may be misdiagnosed with a more physiologically based malady. Some investigators have shown that elderly individuals become more resilient over time or are able to distance themselves from a negative event that occurred over 60 years ago.
Conversely, a host of other studies have found that early combat trauma does indeed have lasting effects years later. These effects, some argue, can be triggered by transition stressors which one might encounter in Erikson's last stages of life. It is essential for psychologists currently serving armed forces personnel to consider and attempt to prepare for possible long-term psychological consequences to combat trauma that might not surface until one's elderly years.

In this study the association between early battlefield stressors and long-term psychological adjustment was examined in a group of 39 World War II Battle of the Bulge U.S. Army veterans and a group of 39 same-age non-veteran males. Studying this elderly veteran population is essential in understanding what the long-term sequelae may be for the current U.S. Army casualties and those who have yet to exhibit symptoms of combat stress. In addition, this work attempted to control for the contribution of current undesirable life events and social support that has been shown in other studies affect veterans' current levels of posttraumatic symptomatology.

The purpose of the present study was specifically to see if Battle of the Bulge combat veterans would show trauma symptomatology currently. Additionally, this study attempted to see if the combat veteran group would exhibit more trauma symptomatology than a group of same age non-veterans. It is was hypothesized that the Battle of the Bulge veterans would show more trauma symptomatology than the non-veterans regardless of the amount of current social support and undesirable life events that they reported. The three independent variables were (a) exposure to combat trauma "yes" or "no," (b) the score from the Perceived Social Support Scale, and (c) the score from the
Louisville Older Person Events Scale. The dependent variable was the total score from the Penn Inventory for Posttraumatic Stress Disorder.

Results and General Discussion

Applying the results of the hierarchical regression yielded exposure to combat trauma as a significant factor in predicting posttraumatic stress disorder symptoms later in life. This study also proved the hypothesis that Battle of the Bulge combat veterans would show more trauma symptomatology than the non-veteran group. It showed that exposure to combat trauma is a predictive independent variable on the dependent variable of current posttraumatic stress disorder symptoms. Interestingly, social support surfaced as a significant negative predictor of posttraumatic stress disorder symptoms in Step 1. Or, the more social support one reports, the lower the levels of current PTSD symptoms reported. This finding is consistent with Briere's (1997) research which states that social support after a stressful event is often associated with a more positive outcome. As a result, the level of social supports in the trauma victim's personal environment can provide important recovery information. Although the Battle of the Bulge group reported slightly less perceived social support in their endorsements on the PSS inventory, these findings merit further discussion.

Measurement of Social Support

According to Valentiner et al. (1994) social resources are stable life context factors which influence the appraisal of life events and the choice and effectiveness of coping strategies. When it comes to one's experiencing uncontrollable negative life stressors, social support has been directly linked to successful coping strategies (Holahan and Moss, 1990). Hobfoll (1988) also indicated that a depletion of social resources after
a trauma can cause an individual to be more vulnerable to future stressors. The present found that social support was as a significant predictor variable in the regression analysis. This finding is consistent with the dearth of literature on social support and trauma recovery and was the reason its influence was controlled for. As this was the first block entered in the hierarchical regression, it is more difficult to draw conclusions about this variable. On time of entry into the regression, the variance due to current undesirable life events and exposure to combat trauma had not been controlled for. However, future research could run similar data with social support as the last order entry to account for all other variance. Regardless, it would be interesting in the future to see how a clinical population of combat veterans would fare in comparison to a sample of non-clinical combat veterans such as used in this study. The social support of the combat veterans in this study was not much different than the non-veteran group and one wonders how this impacted the PTSD scores as the analysis showed. The scores might have been much higher on the Penn Inventory if there was lower perceived social support. This hypothesis is well supported by the body of literature on the subject.

Measurement of Current Life Stressors

According to Moss (1991), life stressors affect the process of recovery and relapse in clinical groups as well as healthy adults. Holahan & Moss (1991) conducted a study of 400 community-resident adults and found that life context factors do indeed contribute to one’s health and psychological well being. Murrell et al. (1984) has widely researched desirability of life events in older adults and created a measure of 54 events both positive and negative that could be experienced by an older individual. This measure, the Louisville Older Person Events Scale (Murrell et al., 1984) was utilized in the present
It is designed to identify and evaluate the impacts of life events on an older individual. A high undesirable life events score indicates higher stress for the individual. Erikson (1980) charted a developmental framework ending in integrity vs. despair which was largely influenced by one's acceptance of one's own life cycle as something that had to be and that could not have been substituted for another path. According to him, one must be able to adapt to the disappointment that one will probably encounter in his last stage of life. For many this would entail an older person's learning to overcome the adversities faced in the elderly years. Averill and Beck (2002) suggested that a possible factor of delayed onset-PTSD is the nature of specific developmental stressors that occur later in life. The LOPES was purposely excluded as a predictor variable in this study to see how being exposed to combat solely and exclusively might add to the constellation of an elderly combat veteran's PTSD symptomatology. Again, it must be noted that the purpose of this study was not to see if current undesirable life events were predictive of PTSD symptoms. Rather it was included as one of the required variables of a proper trauma study to control for (Briere 1997).

Although not utilized as a predictor variable in the current study, there is enough research on delayed-onset PTSD demonstrating that transition stressors later in life can surface latent symptoms. In the current study there was a restricted range of scores on the LOPES. The items endorsed on this measure showed a commonality of current stressors across the different groups. Items such as having a friend pass away recently or a recent move were endorsed with a high frequency by both the combat veterans and non-veterans and would be explained as common transitional stressors in this stage of the life cycle. There was not much variation in the current stressors that both groups
reported even though there were over 50 possible stressors to choose from. Additionally, participants weighted many of the items low and explained that adapting to undesirable life events is a part of negotiating the elder years successfully. This could explain the restricted range of scores on the LOPES and a possible need to design a measure which takes into account one's possible desensitization to undesirable life events as they become more frequent at the end of the life cycle. In any event, this warrants future research which is specifically designed to more fully explore this sole factor.

Limitations

There are several limitations in the present study; thus, one must be careful in its interpretation. First, despite the robust association of the Penn Inventory for Posttraumatic Stress Disorder with a diagnosis of PTSD in accordance with the American Psychiatric Association (1994) DSM-IV criteria, PTSD symptom scores are not necessarily interchangeable with a PTSD diagnosis. There were only 3 combat veterans who met the cutoff score on the Penn Inventory indicating a full diagnosis of PTSD. So, although combat trauma was associated with higher reported PTSD symptoms, the difference between the veteran and non-veteran group was only a 6-point difference when looking at the means of the group's scores.

Another potential concern is that the study's sample representativeness is unknown; nonrandom sampling procedures may have introduced a bias, and the results may not be generalizable to all male World War II combat veterans. This study is limited by a small sample size and participant recruitment methods that relied on volunteers rather than random, probability sampling. Additionally, the combat veteran sample was chosen from exposure to a specific battle in an attempt to keep the traumatic combat
stressors as uniform as possible. However, due to the nature of warfare and individuals' specific reactions to stress, it is impossible for everyone to have the same experience even in one campaign. The Battle of the Bulge veteran's experience might be different than a soldier fighting the Japanese in the Pacific theater, although the literature supports that there are many factors common to all battles across all cultures and all time periods.

A major weakness in this study is the inclusion of only two non-Caucasian veterans. This was probably due to the United States Army's still being segregated during World War II with infantry and artillery companies comprised solely of Caucasians. African Americans of the period were relegated to mine sweeping, transportation, supply, and graves detail for the most part. African American WWII veterans are probably not as comfortable in joining veterans' associations that are almost exclusively Caucasian in membership. Additionally, the type of individual who joins a veterans' organization has to some extent accepted much of their role as a combatant and embraced it. It seems necessary to investigate those hard-to-reach veterans of all races and ethnicities who have not volunteered to meet regularly and open up old psychological wounds. Although data on other ethnicities' experiences would have been more applicable to the current face of the armed forces, this was obviously not possible. Future studies on the aftermath of combat exposure on current combatants would have the opportunity to include a wide range of minorities and both genders.

Findings also do not explain reports that individual resource factors, specifically education, rank, and intelligence (Sutker and Allain, 1995), and stable characteristics such as personality hardiness and coping styles may moderate stress impact. Potential moderating effects of resilience factors do not, however, negate the established findings
of this study that combat exposure is a predictor of PTSD symptomatology much later in life. Additionally, the retrospective nature of this study allows for an extended interval between assessment and combat trauma. This increased the likelihood that other traumatic events and life circumstances may have contributed to psychopathology in addition to combat trauma. In sum, the present report of past events could be colored to some extent by subsequent events and current interpretations. However, the commonality of relationships among traumatic exposure and symptoms across all wars is not likely to have been affected to any substantial extent by retrospective biases in reporting.

Results also must bring into question the measurement of psychopathology among individuals who tend, as do some military personnel, to present themselves favorably on psychological tests (Butcher, 1994). It is suggested that such individuals may be more successful in responding within the “normal” range on self-report measures, avoiding endorsement of obvious psychological distress. When conducting the current study, however, most of the veterans appeared more than willing for informal face-to-face interviews after the surveys were completed. Confronted with the face-to-face interviews, this study’s veteran sample appeared to be straightforward in admitting distress. Gates, Palmer, and Hernandez (2003) noted Battle of the Bulge veterans’ candor in reporting psychological distress in a qualitative study of combat infantrymen. Hence, the use of specific face-to-face interviews may increase the likelihood of admission of psychological distress.

Even with these limitations, this study shows that persons with prior war-zone stress are at increased risk for an episode of PTSD compared with persons without such
experience and that an episode of symptoms may occur years after the initial combat trauma exposure.

**Implications for Practice and Future Research**

Although further research should be conducted to clarify these findings, there may be valuable implications for the military's approach to treatment of combat stress. The identification of PTSD symptoms among troops exposed to combat should be a high priority so that clinical interventions can be applied to increase the likelihood that such combatants could function in future conflicts and in the transition to civilian life. There is high cost to the military, the Veterans Administration, and to society for having service members who are unable to function in war and after. Those interested in the study of combat trauma and its aftermath need to consider the findings of this and similar studies. Although a soldier may not exhibit signs of combat trauma during a conflict, the psychological injury may take years to surface if it does at all. Exposure to multiple stressful events, such as combat, over an extended period of time, perhaps many years, may drive symptomatology at the time of the psychological injury or late in one's elderly years.

This study represents an attempt to refine the ability to predict posttraumatic symptomatology. Further research should attempt to clarify the vagueness in the literature regarding the influence of pre-event characteristics of individuals most likely to be resilient to stress. Hardiness is among the traits that the Israeli Defense Forces attempt to identify in selecting elite soldiers. Also, the U.S. Army currently attempts to build small unit cohesion and to keep units together during a conflict to ward off combat stress. More work must be done to determine specifically how these factors along with
education and rank are influential to one’s reaction to combat stress and possible development of anxiety disorders.

For current military psychologists, it is important to be aware that a consequence of any exposure to combat trauma may leave the victim more vulnerable to suffering PTSD symptoms. Most of the veterans in the current study reported in conversation that their PTSD symptoms have worsened over time. So, for the psychologist working with current service personnel in Afghanistan and Iraq, it is important to consider that the soldier who appears unaffected currently may not experience any symptoms for 50 years. Longitudinal research should be conducted on the current members of the armed forces to tease out what factors would lead them to become like so many of the elderly Battle of the Bulge Veterans in the current sample. Also, as social support has been shown to be a significant mediator to PTSD scores, the military should continue to bolster their already established family and group counseling programs to help with the transition back to the United States after being exposed to hostile action. The U.S. Army should also continue to offer psychoeducational programs designed to not only discuss difficulties in transitioning from a combat zone to the return home, but also the need to continuously monitor their mental health long after separation from the military.

For psychologists outside of the military and working with prior combat veterans, it should be stressed to be vigilant for latent-PTSD symptoms. These could interfere with current treatment goals even if the presenting problem seems unrelated to exposure to combat stress. Also, for those psychologists working with an elderly population it would be important as part of an intake interview to ask if one is a combat veteran. As was seen
in the current study, being a 90 year old does not always inoculate the overwhelming effect that combat can have on a human being.

As previously discussed, further research should be conducted on intrapersonal, interpersonal, and environment resources for the combat veteran. These may serve to ameliorate the occurrence or persistence of reactions to combat stressors and thereby work to neutralize their negative impact on psychological well being. A consequence of any given incident of exposure may be the dissipation of resources, leaving the victim more vulnerable to stress reactions in the future. Again, military psychologists along with the Department of Veterans Affairs and other civilian agencies should help to provide these resources and should aid in educating families and friends as to the importance of strong social resources in a service member's healing from combat exposure.

Conclusions

Despite differences in the levels of traumatic exposure and symptoms across the Battle of the Bulge combat veterans, the relationship between traumatic combat exposure and symptoms revealed much commonality across this cohort. Data from both the current body of literature and the present study indicate that the relationship between exposure to combat trauma and current PTSD psychological symptoms is positive and similar to what has been reported over the centuries. This study sheds light on the long-lasting and often latent effects of combat trauma. There is reason to believe that the data contained in this study, even though it is related to the after effects of World War II, is likely to be applicable to the effects of modern warfare in general. At the time of this study the United States is engaged in a war on terror on two major fronts in Afghanistan.
and Iraq. By the year 2055 when a large portion of these service members enter Erik Erikson's final stage of development, ego integrity vs. despair, some might be seeing their first signs of posttraumatic stress disorder symptoms. It is imperative that both clinical and research psychologists utilize all of their clinical tools to prevent this from happening.
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Dear Potential Participant,

I am a Fourth year doctoral student in the Counseling Psychology program at Seton Hall University and am collecting data for an independent dissertation.

The purpose of this study is to investigate the current well being of Battle of the Bulge Combat veterans and same age non-veterans. The research is interested in looking at current levels of social support, current life experiences, and current levels of distress. This project is expected to take an hour and a half to complete.

If you are a Battle of the Bulge combat veteran or are a non-veteran male who was born between 1912 and 1927 and decide to participate in the present study, I ask that you complete four paper and pencil surveys and a demographic questionnaire. The instruments that you will be asked to complete are: (1) The Mini-Mental State Examination an 11 question test to screen for cognitive impairment (2) A demographic measure of basic background information (3) The Penn Inventory for Posttraumatic Stress Disorder a brief measure of current distress levels and trauma experiences (4) The Perceived Social Support Scale a measure of perceived friend and family support and (5) The Louisville Older Person Events Scale a ranking measure of recent life events.

Participation in this study is completely voluntary. Should you choose not to participate, you may do so without penalty. You may also discontinue participation at any time during the study if you so choose.

As a participant, you will remain anonymous and any data generated will be analyzed without individual names. The primary researcher will be the only person having access to your identifying information. The information obtained through the questionnaires will be analyzed as aggregate data only. Your data will be securely stored in a locked box in the researcher’s home.
This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Subjects Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached at (973) 275-2977 or (973) 313-6314.

Sincerely,

Christopher B. Gates, MA
4th Year Ph.D. student
Counseling Psychology Program
Seton Hall University

Laura Palmer, Ph.D.
Assoc. Professor, Director of Training
Counseling Psychology Program
Seton Hall University
Appendix B
REQUEST FOR APPROVAL OF RESEARCH, DEMONSTRATION OR RELATED ACTIVITIES INVOLVING HUMAN SUBJECTS

All material must be typed.

PROJECT TITLE: Current Adaptive Functioning of Battle of the Bulge Combat Veterans

CERTIFICATION STATEMENT:

In making this application, I(we) certify that I(we) have read and understand the University's policies and procedures governing research, development, and related activities involving human subjects. I(we) shall comply with the letter and spirit of those policies. I(we) further acknowledge my(our) obligation to: (1) obtain written approval of significant deviations from the originally-approved protocol BEFORE making these deviations, and (2) report immediately all adverse effects of the study on the subjects to the Director of the Institutional Review Board, Seton Hall University, South Orange, NJ 07079.

Christopher Bradford Gates

RESEARCHER'S ADVISOR OR DEPARTMENTAL SUPERVISOR

Date

LAURA PALMER, Ph.D.

The application was approved by the Committee. Special conditions were set by the IRB. (Any special conditions are described on the reverse side.)

DIRECTOR
SETON HALL UNIVERSITY INSTITUTIONAL REVIEW BOARD FOR HUMAN SUBJECTS RESEARCH

Date

May 29, 2003

Seton Hall University Institutional Review Board for Human Subjects Research

MAY 29 2003

04/2003

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