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Post traumatic stress disorder and ethnicity an analysis of symptomatology

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**POST TRAUMATIC STRESS DISORDER
AND ETHNICITY:
AN ANALYSIS OF SYMPTOMATOLOGY**

A Thesis

Presented to

**The Faculty of the Department of Psychology
San Jose State University**

**In Partial Fulfillment of the
Requirements for the Degree
Master of Science**

by

Suzanne Marie Budrick

May 1996

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ABSTRACT

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by Suzanne Marie Budrick

Ethnic minorities manifest symptoms differently in many psychiatric disorders. There is a paucity of research in the area of race/ethnicity and PTSD. This study was developed to understand symptomalogical differences among minorities with PTSD. Archival data on two hundred male help-seeking Vietnam veterans of African-American, Caucasian, and Hispanic backgrounds, who had completed the Combat Exposure Scale, Mississippi Scale for Combat Related PTSD, and a demographic questionnaire were analyzed. A MANCOVA (covariates were age and combat exposure) was conducted with ethnicity as the independent variable and the Mississippi Scale for Combat Related PTSD scores as the dependent variables. No significant differences in Mississippi scale were found among the different ethnic groups. Younger veterans reported significantly more numbing and self persecution than older veterans. Veterans with a higher level of combat exposure reported higher levels of reexperiencing than veterans with lower levels of combat exposure. Explanations of the results, limitations of this study, and future research are discussed.

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POST TRAUMATIC STRESS DISORDER AND
ETHNICITY:
AN ANALYSIS OF SYMPTOMATOLOGY

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Footnotes

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Abstract

Ethnic minorities manifest symptoms differently in many psychiatric disorders. There is a paucity of research in the area of race/ethnicity and PTSD. This study was developed to understand symptomalogical differences among minorities with PTSD. Archival data on two hundred male help-seeking Vietnam veterans of African-American, Caucasian, and Hispanic backgrounds, who had completed the Combat Exposure Scale, Mississippi Scale for Combat Related PTSD, and a demographic questionnaire were analyzed. A MANCOVA (covariates were age and combat exposure) was conducted with ethnicity as the independent variable and the Mississippi Scale for Combat Related PTSD scores as the dependent variables. No significant differences in Mississippi scale were found among the different ethnic groups. Younger veterans reported significantly more numbing and self persecution than older veterans. Veterans with a higher level of combat exposure reported higher levels of reexperiencing than veterans with lower levels of combat exposure. Explanations of the results, limitations of this study, and future research are discussed.

INTRODUCTION and LITERATURE REVIEW

Ethnicity and the prevalence of Post Traumatic Stress Disorder (PTSD) among Vietnam Veterans has been studied by numerous researchers (Escobar, Randolph, et al., 1983; Penk et al., 1989; Schlenger et al., 1992). Results from the National Vietnam Veterans Readjustment Study (NVVRS) (Kulka et al., 1990), a study of a randomized sample of 1632 Vietnam veterans, showed that only 13.7% of the sample of White veterans and veterans classified as "other" ethnicity met the criteria for PTSD, whereas 20.6% of African-American veterans and 27.9% of Hispanic veterans met the criteria for a diagnosis of PTSD (Schlenger et al., 1992). Similar results were found in a study of African-American veterans seeking help for substance abuse problems (Penk et al., 1989). Furthermore, in a recent study of Persian Gulf veterans, researchers found ethnic minorities were at increased risk for PTSD and other psychological disorders (Sutker, Davis, Uddo, & Ditta, 1995). This information is valuable from an etiological standpoint, and gives military personnel information as to which soldiers are more vulnerable to PTSD, however it does not provide much information about intervention and treatment of the more vulnerable minority veterans.

In addition to a greater prevalence of PTSD in ethnic minorities, predisposing factors appear to have the greatest impact on race/ethnicity minority subgroups of male veterans involved in combat (Kulka et. al., 1990). "The adjustment [for predisposing factors] reduced the current PTSD prevalence difference between White/other and Hispanic male theater (veterans involved in combat) veterans by 57% and the difference between Black and Hispanic males by 67%. Additionally, when adjusted for predisposing factors the difference in current PTSD prevalence between African-American and Hispanic males became statistically non significant" (Schlenger et al., 1992, p. 256). In other words, African-American and Hispanic veterans may be as equally affected as Whites by combat

exposure, but an ethnic minority veteran's pre-war life experiences make him or her more vulnerable to the effects of war. It appears that there are many factors (e.g., age, combat exposure and intensity, marital status, socioeconomic status, premilitary emotional adjustment) that make ethnic minorities more likely to develop symptoms of PTSD (Kulka et al., 1990).

There are two possible directions to take the existing research on ethnicity and PTSD. The first, as suggested by the NVVRS study, is to identify the factors that account for the increased prevalence of PTSD among ethnic minorities. The second, which is also recommended by the researchers of the NVVRS (Kulka et al., 1990), is to analyze present symptomatology of ethnically diverse veterans, and to understand how minorities differ in their manifestation of PTSD. This information is vital, as the diagnosis of symptoms should guide treatment.

These two possible directions in research appear to represent prevention and intervention (respectively). Prevalence research is important in determining the numbers of veterans that develop PTSD. However, understanding ethnic differences in symptom presentation would aid in developing intervention strategies. The aim of this study is to develop a better understanding of the specific problem areas among veterans from different ethnic backgrounds. Before the current study is explained, an extensive review of the PTSD literature will be provided.

LITERATURE REVIEW

History of PTSD

The effects of trauma were first investigated in the early work of Sigmund Freud. This pioneer in psychoanalysis felt that children exposed to sexual seduction could possibly be traumatized by the experience (Freud, 1893). Freud and Breuer also studied the psychological symptomatology associated with traumatic life events (Breuer & Freud, 1957). Freud later recanted his theory on sexual seduction, and proposed that the

memories were actually fantasies (Freud, 1893). Psychological trauma, due to a specific etiological factor, was not studied in depth during the early evolutionary years of psychology.

The effects of war became more apparent to the world of psychiatry with the return of soldiers from World Wars I and II. The group of psychiatric symptoms were referred to as “war neuroses.” At this time, psychiatrists were recruited to analyze the behavior of veterans with combat neuroses. Combat neurosis was eventually renamed Post Traumatic Stress Syndrome (PTSS) (Lund et al., 1984).

In 1964, the United States entered the Vietnam War with some knowledge of the psychological effects of war. Glass (1969) summarized this knowledge as follows:

1. The stress from battle danger is an essential element in the etiology of psychiatric breakdown in combat.
2. There is a close relationship between the severity of battle danger and the number of casualties.
3. The support and cohesion of the soldiers’ primary group is the major protective influence against such stress.
4. Psychiatric casualties occur mainly in the soldiers new to combat and veteran soldiers who have been in a combat unit for a long time.
5. After 80-100 days of combat experience the risk of becoming a psychiatric casualty increases greatly.
6. It is administratively impossible to predict at induction with anything better than chance which man will decompensate in battle and which will not.
7. A policy of treating the psychiatric causality as close as feasible to the front (and hence his unit), as quickly as possible after his decompensation, and with a high degree of expectancy of his rapidly returning to duty, produces the

smallest loss of manpower and reduces the incidence of chronic psychopathology (Boman, 1982, p. 108).

During the Pre-Tet era of the Vietnam War (1964-1968) there was much support and enthusiasm from the home front for the soldiers fighting in Vietnam. It appeared at that point that the United States was winning the war. In fact early statistics suggested that only 6% of psychiatric casualties were combat fatigue related (Bourne & San, 1967).

The war continued and in 1968, with the Tet offensive, it appeared that the inevitable victory was not, in fact, inevitable. Media coverage of My Lai and the heroin epidemic around 1970 sharply divided public opinion about the war in Viet Nam. Soldiers coming back to their homeland were shunned for doing their duty. This was a period of disillusionment. After the long lasting and brutally violent war, many veterans returned home to rejecting arms.

Nosology

In the years post Vietnam, there still was not a codified diagnosis of the symptoms the veterans were experiencing. The set of psychiatric symptoms were first described by Abraham Kardiner in 1941. Shatan (1973) introduced the term Post Vietnam Syndrome. This unofficial diagnosis contained seven criteria: (a) guilt feelings and self punishment; (b) feeling scapegoated; (c) violent impulses, indiscriminately directed; (d) psychic numbing; (e) alienation from one's own feelings and from other people; and (f) doubts about continued ability to love and trust others. This preliminary diagnosis lead to the Post Traumatic Stress Syndrome (Lund et al, 1984).

In 1980, the American Psychiatric Association, in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) (American Psychiatric Association, 1980), recognized what is now called Post Traumatic Stress Disorder (PTSD). The 1987 version of the DSM (DSM III-R) (American Psychiatric Association, 1987) further expanded the

definition of stressors, rearranged the symptoms into clusters, and revised the items to incorporate children into the diagnosis. PTSD is characterized by distinct clusters of re-experiencing, numbing, and arousal-like symptoms. The nosology of PTSD was developed out of clinical and empirical observations of adults exposed to man-made disasters (e.g., wars, nuclear explosions, and bombings) or natural disasters (e.g., tornadoes, earthquakes, and floods).

Currently, to diagnose PTSD the following criteria must be met, according to the DSM-IV (American Psychiatric Association, 1994):

A. The person has been exposed to a traumatic event in which both of the following were present:

(1) the person experienced, witnessed, or was confronted with an event or events that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others:

(2) the person's response involved intense fear, helplessness or horror.

Note: In children, this may be expressed instead by disorganized or agitated behavior.

B. The traumatic event is persistently reexperienced in one (or more) of the following ways:

(1) recurrent and intrusive distressing recollections of the event, including images, thoughts, or perceptions. Note: In young children, repetitive play may occur in which themes or aspects of the trauma are expressed.

(2) recurrent distressing dreams of the event. Note: In children, there may be frightening dreams without recognizable content.

(3) acting or feeling as if the traumatic event were recurring. Note: In young children, trauma-specific reenactment may occur.

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

(5) physiological reactivity on the exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness, as indicated by three (or more) of the following:

(1) efforts to avoid thoughts, feelings, or conversations associated with the trauma

(2) efforts to avoid activities, places, or people that arouse recollections of the trauma

(3) inability to recall an important aspect of the trauma

(4) markedly diminished interest or participation in significant activities

(5) feelings of detachment or estrangement from others

(6) restricted range of affect

(7) sense of a foreshortened future.

D. Persistent symptoms of increased arousal, as indicated by two (or more) of the following:

(1) difficulty falling or staying asleep

(2) irritability or outburst of anger

(3) difficulty concentrating

(4) hypervigilance

(5) exaggerated startle response.

E. Duration of the disturbance is more than 1 month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning (American Psychiatric Association, 1994, p. 428).

The history of PTSD spans over 100 years, yet the greatest amount of trauma research was spurred from the reactions of Vietnam veterans upon their homecoming and the years that followed. Understanding the history of PTSD will ensure a solid base of knowledge required for a deeper understanding of the current research.

Prevalence of PTSD in Vietnam Veterans

Early prevalence estimates of PTSD varied from 250,000 (Wilson, 1978) to over two million (Egendorf, 1982). Recent estimates from the NVVRS study suggest that 15% of male and 9% of female theater veterans continue to meet criteria for PTSD 15 years after their service (Schlenger et al., 1992). The results of this study suggest that PTSD is persistent over time.

Etiological Factors

Researchers have studied many etiological factors related to the development of PTSD in soldiers. The research thus far has focused upon pre-military factors, military factors, and post-military factors.

Pre-military factors. In an attempt to understand vulnerability to PTSD, many researchers have examined predisposing characteristics that might differentiate among those with and without PTSD (Berg, Watson, Nugent, Gearhart, & Juba, 1994; Breslau & Davis, 1987; Emery, Emery, Shama, Quiana, & Jassani, 1991; McCarren et al., 1995; McNally & Shin, 1995; Schlenger et al., 1992). Emery et al. (1991) found that predisposing characteristics can be divided into three categories: (a) predisposition due to preexisting psychopathology, (b) predisposition due to preexisting traits or characteristics considered normal, and (c) predisposition due to preexisting specified stressors experienced in the family of origin. The first two categories relate to the individual's own functioning; the last category focuses primarily on the individual's environment.

Some researchers have suggested that soldiers who have a preexisting psychological disorder are more vulnerable to PTSD. There is support on both sides of this

question. Moses (1978) believed that PTSD only appeared in “a personality whose ego had already tended in that direction” (p. 356). Gellers et al. (1988) found no significant differences in pre-military adjustment between soldiers who developed PTSD and those who did not. Other researchers (Denny, Robinowitz, & Penk, 1987; Watson, Kucala, & Manifold, 1985) found that many soldiers diagnosed with PTSD had concurrent or preexisting Axis II disorders. The view that soldiers with preexisting psychological disorders are more prone to PTSD remains controversial.

Another question considers whether specific preexisting traits or characteristics considered normal predispose soldiers to PTSD. Preexisting traits or characteristics encompasses a wide variety of variables (demographic factors, personality characteristics, etc.). Among these, ethnic minority status has been found to be a significant predisposing factor for PTSD. Many researchers have found that minority soldiers (African-American and Hispanic) were more vulnerable to PTSD when compared to non-minority soldiers (Egendorf, 1982; Penk et al., 1989; Schlenger et al., 1992; Wilcox, Briones, & Suess, 1991). The research in this area is discussed more fully later in this review.

Nace, Meyers, O’Brien, Ream, and Mintz (1977) found that post-military social adjustment and depression are accounted for primarily by pre-service adjustment variables. Worthington (1977) found that post-war adjustment problems were related more strongly to pre-military adjustment than to military service in Vietnam. The earlier the age of entry into the service, the lower the years of education, and the more the individual had authority problems, the greater the likelihood of PTSD. Loor, Penk, and Stenger (1975) found a significant difference in personality styles of Vietnam veterans and World War II veterans. The Vietnam veterans were more rebellious, mistrusting, and impulsive, which may have been related to the *Zeitgeist* of the 1960’s. Card (1987) found that low self confidence at age 15 was a significant antecedent to PTSD. Berg et al. (1994) found that moral development may blunt the effect of combat severity (a primary military antecedent to

PTSD). McNally and Shin (1995) found that the lower a veteran's intelligence, the more severe were his/her symptoms. Solomon and Oppenheimer (1986) found that "given exposure to severe combat stress, the reserve soldier who is 26 years of age or older, of low military rank and education, and with low measured suitability to combat is relatively more vulnerable to combat stress reaction than the younger, higher ranking, more educated soldier whom tests have found suited for combat" (p.3).

Another question of interest is whether problems in the family of origin make a veteran more susceptible to PTSD. The research in this area is clouded by contradictory findings. Solkoff, Grey, and Keill (1986) found that pre-service and early experience do not play a major part in a soldier's vulnerability to PTSD. There has even been the suggestion of a possible stress inoculation or vaccination. Solomon and Oppenheimer (1986) suggest that surviving previous battles without experiencing psychopathology decreases the risk for further development of psychological problems in the next combat experience. Boulanger and Kadushin (1986) found that non-supportive family atmosphere in one's family of origin was not a predictive index in men at high combat exposures. This is a controversial area of PTSD research and stress inoculation has yet to be established as a verifiable phenomenon (Watson et al., 1993).

In taking family histories of PTSD patients, Davidson and Swartz (1985) found that 60% had family histories of alcohol and drug abuse, 22% had a history of panic attacks and generalized anxiety, and 22% had a history of depression. Emery et al. (1991) found a higher rate of unemployment in the parents of Vietnam veterans diagnosed with PTSD. Researchers have also found that at low levels of combat exposure a father's negative parenting behaviors, such as inconsistent love, are predictive of PTSD symptom severity (McCranie, Hyer, Boudewyns, & Woods, 1992). Although the research in this area is mixed and it seems that there are data to support conflicting views, one fact is generally

agreed upon among trauma researchers: combat exposure is primary in potential vulnerability to this disorder.

Military factors. Although many factors make a human more susceptible to psychiatric illness, especially one as complex as PTSD, researchers have found that proximity to combat or combat exposure seems to be most associated with the development of PTSD (Foy, Carroll, & Donahoe, 1987; Penk et al., 1981). Strayer and Ellenhorn (1975) found that 60% of heavy and moderate combat veterans were poorly adjusted. Card's (1987) study of 1,385 randomly selected Vietnam veterans, found that combat experiences such as receiving fire from an enemy, firing your weapon at an enemy, killing an enemy, seeing someone get killed, seeing an enemy wounded, seeing an American wounded, seeing an enemy dead, seeing an American dead, finding yourself in a combat situation where survival was in jeopardy, and receiving an injury were all significantly associated with a subsequent diagnosis of PTSD. Combat exposure seems to have a significant effect on PTSD development.

Other military experiences that seem to contribute to the etiology of PTSD include: (a) high liquor consumption (Card, 1987); (b) poor military adjustment (Foy et al., 1987); (c) drug use during combat duty (Gellers, Foy, Donahoe, & Goldfarb, 1988); (d) participation in abusive violence (Laufer, Brett, & Gallops, 1985); and (e) immediate discharge after the war (Frye & Stockton, 1982). In conclusion, it appears that a number of military factors may contribute to a soldier's vulnerability to PTSD.

Post-military factors. It is very difficult to determine whether post-military factors contribute to the onset of PTSD or if these factors are exacerbated by the PTSD. Due to the limited scope of this paper, the post-military etiological factors will simply be mentioned. Fontana and Rosenheck (1994) found that Vietnam veterans who encountered a lack of support from family and friends at the time of their homecoming had an increased risk for PTSD. These same authors found that societal rejection at the time of homecoming also

played a role in the development of PTSD. Card (1987) found that veterans at the age of 36 who were divorced, separated, or single, veterans not living with a wife or girlfriend, veterans who had a high absenteeism at their work, veterans who used narcotics or non-prescription and prescription stimulants, veterans who had been arrested, and veterans that perceived the service as having a negative effect on their future were all more likely to carry a diagnosis of PTSD. Stuenkel and Solberg (1972) found that there was a significant difference between in-patient veterans and non-Vietnam military in terms of coping ability. Yankelovich (1974) found that Vietnam veteran college students when compared with non-veteran college students had higher unemployment rates, lower general morale, and a higher degree of pessimism and estrangement. Wilson (1978) found that Vietnam theater (theater veterans were in Vietnam during the Vietnam years) veterans, when compared with Vietnam era (era veterans were in the military during the Vietnam years but were not in Vietnam) veterans, had more problems in maintaining relationships and higher rates of alcoholism and drug dependence. It seems that there are many significant differences in Veterans and non-veterans on a number of post-military measures.

Racial Differences in PTSD

Ethnic minorities, such as African-Americans and Hispanics have a higher prevalence of PTSD (Kulka et al., 1990). Some theories have been suggested to account for the differences. The Vietnam era ran concurrently with the Civil Rights movement. Many African-Americans were fighting the government for rights. The 1960s were the days of the March on Washington, riots, and the death of Martin Luther King, Jr. African-Americans were fighting for their rights in the U.S. and also fighting for the government in Vietnam. Hispanics were also fighting economic battles in the U.S. in the farm labor movement of Caesar Chavez. African-Americans and Hispanics had different issues than Caucasians at that time. Also, people of low socioeconomic status (SES) were most likely to encounter higher combat exposure (Boman, 1982). In essence, the minorities were in

double jeopardy; discriminated against on the home-front and in Vietnam. The results of the NVVRS study (Kulka et al., 1990) suggest that if all of the predisposing variables are controlled, prevalence differences among ethnic groups are nonsignificant, implying that previous experience and not skin color alone makes someone more vulnerable to PTSD.

It has been established that 27.9% of Hispanic and 20.6% of African-American veterans have been diagnosed with PTSD. While many researchers have asked why they are different, not many have asked how they are different. Researchers need to address such questions as: (a) Do minorities in treatment for PTSD continually report certain symptoms that differ from their White counterparts? (B) Do they cope with their symptoms differently than do Caucasians? and (c) Which symptoms do minorities report as the most distressing? These and other “how” questions have not been asked but are important in the treatment of veterans with PTSD. It is erroneous to assume that Whites and minorities suffer from the same symptoms when it is known that they come from different life experiences. Understanding symptomatology and its differences in ethnic groups will help guide treatment.

Differences among Minorities

African-Americans constitute the largest minority in the United States (Norton, 1983). Many of these individuals come from backgrounds of poverty and disadvantaged status, and they encounter a tremendous amount of racism. African-Americans compose 42% of the prison population. African-American unemployment rates are two times higher than those for Whites. The most frequent cause of death among African-American youth is homicide. Life expectancy is five years shorter among African-American men than White men. The average income among African-American families is almost \$10,000 less than the average White family income. In 1984, 34% of African-American families were living under the poverty level, compared with 11.5% of White families. Educational achievement

between African-American and White middle school students also varies significantly (Sue & Sue, 1990).

Although these statistics paint a grim picture, there is also an enormous variation in SES among African-Americans. About 10% of African-Americans are among the upper class, 40% are considered middle class and 50% belong to the lower class, which speaks to this variation. Reactions to racial oppression, influence of the majority culture, influence of the Afro-American culture, and personal experiences and endowments may influence diagnosis and symptom presentation.

Hispanics encompass a wide variety of Latin peoples. Someone who is Hispanic (Hispanic is a confabulated word invented by the U.S. census that carries a controversial meaning) can be a Cuban, a Spaniard, an Honduran, a Puerto Rican, a Mexican, or a number of other people from different countries with different cultural folkways and mores. It is estimated that by the year 2000 Hispanics will be the largest minority group residing in the U.S. Hispanics are over-represented among the poor, have higher unemployment rates, and more often live in substandard housing. Median family income is an average of \$10,000 less for Hispanic families in comparison to that for Caucasian families. Nearly half of the Hispanic students drop out of high school (Sue & Sue, 1990).

In both Hispanic and African-American families there are many different cultural variations in beliefs and attitudes. People with different backgrounds and experiences perceive and experience events differently. Available research documents ethnic variation in presentation and prevalence of psychiatric disorders.

Ethnic Differences in other Psychiatric Disorders

African-Americans and symptomatic differences in psychiatric disorders. Few studies have been published on how African-Americans differ from Whites in symptom presentation. In studies on symptomology among African patients it was found that African patients report more hypochondriacal and paranoid symptoms than do Whites

(Hanck, Gutierrez, & Brieva, 1981; Jacobsson, 1988; Lehmann, 1983; Majodina & Johnson, 1983). African patients tended to show an absence of culpability feelings, obsessional symptoms, and self-aggressive tendencies. On the other hand, agitation, somaticized anxiety, and depersonalization were very prevalent in these patients. Jacobsson's (1988) research confirmed these results. He found that African patients seldom say that they feel sorry or depressed, they seldom express feelings of low self-esteem and they rarely report suicidal ideas, and even less often, commit suicide. On the other hand, hypochondriacal and paranoid ideas are usual, as are many somatic complaints.

Simon, Fleiss, Gurland, Stiller, and Sharpe (1973) found that depressed African-American participants seem to have more autonomic symptoms, worry more, and have more symptoms of anxiety than Whites. African-American males have been found to turn their anxiety inward and they rate themselves higher on hostility scales (Worthington, 1992). In comparing White and African-American schizophrenic patients (Fabrega et al., 1994) found that African-American patients showed more auditory hallucinations, memory disturbances, and disorientation, than Whites. These researchers also found that African-American patients have more severe symptoms of impulsivity and poor communication that sometimes manifest in angry outbursts. Roberts (1992), in a national survey of 590 participants, found that both African-Americans and Hispanics present more somatic symptoms than their White counterparts. Liss, Weiner, Robins, and Richardson (1973) found that African-American and Hispanic patients have significantly more delusional thoughts than White patients; the authors believed that ethnicity is significantly associated with the diagnosis.

Other studies have found that African-American substance abusers and/or alcoholics have higher levels of somatization, interpersonal problems, depression, hostility, phobias, paranoia, psychotism, and higher levels of psychosocial stress (Pavkov, McGovern, & Geffner, 1993). Fabrega et al. (1994) found that elderly African-American patients were

more likely to receive a diagnosis of a psychotic disorder than their European-American counterparts. These results remained salient after controlling for age, education level, gender, and commitment status. African-Americans also scored significantly higher on the psychoticism symptom cluster (conceptual disorganization, hallucinatory behavior, and unusual thought content/delusion). Last, researchers have found that African-American participants are more likely to have anxiety disorders than their Caucasian counterparts (Neal & Turner, 1991). In addition, the authors stated that “Despite the high prevalence and suggestion of different patterns of manifestation, a paucity of research exists on anxiety disorders in this population” (Neal & Turner, 1991, p.400). It is the purpose of the present study to decrease this paucity. It appears that African-Americans express symptoms differently than do Whites. It is the aim of this project to examine whether these differences and others are present in PTSD.

To account for these ethnic differences, some researchers have suggested (Adepbimpe, 1981; Fabrega et al., 1994): (a) there is a confounding effect of SES, (b) there is a referral bias due to different access to or pattern of utilization of treatment and custodial options, (c) there are misdiagnoses due to stereotypical thinking or an ethnocentric perception of cultural baselines, (d) there is a psychological consequence of racial oppression, and (e) there are differences in genetic and biological vulnerability (Fabrega et al., 1994, p.140). Neighbors et al. (1989) ascribed the differences in psychiatric disorders among African-Americans to contradictory factors: “1) African-Americans and Whites exhibit symptomatology similarly, but diagnosticians mistakenly assume that they are different; 2) African-Americans and Whites display psychopathology in different ways, but diagnosticians are unaware of, or insensitive to such cultural differences” (p.301). The researchers suggest more research in the area of symptomatology and ethnic minorities, so that a comprehensive theory can be validated. Denny, Rabinowitz, and Penk (1987) also suggest that research designs need to shift to

“organistic-like” questions, such as: “What are the relative effects of this type of trauma for this kind of pattern of symptoms in these kinds of individuals?” (p.64). This is the question that is being examined in this study with regard to PTSD symptoms.

Hispanics and symptomatic differences in psychiatric disorders. Several researchers have examined ethnic differences of symptoms manifested most often by contrasting Hispanic and White participants. Golding, Karno, and Rutter (1990) found that non-Hispanic White participants may have higher rates of some symptoms when compared to Hispanic participants. Somatization is a symptomatic feature that many researchers have found to be more present in minorities. Whites have been found to express more affective symptoms and Hispanics seem to express more somatic depressive symptoms. These findings have been replicated by other researchers (Angel & Guarnaccia, 1989; Jacobsson, 1988). Somatic complaints are so common among Hispanic cultures that the culture has an idiom to express the symptoms. The symptoms of the condition, “nervios,” include headaches, trembling, heart palpitations, stomach and appetite disturbances, trouble concentrating, sleep problems, and worry (Angel & Guarnaccia, 1989).

Other differences in symptom manifestation of those with psychiatric diagnoses have also been examined. Golding et al. (1990) found that non-Hispanic Whites were more likely than Mexican-Americans to report dysphoria, hypersomnia, fatigue, decreased sexual interest, feelings of worthlessness, difficulty concentrating, the death ideation cluster, death ideation, and suicide ideation. These results suggest that ethnic differences in symptom presentation may account for ethnic differences in the lifetime prevalence of depression.

In another study of ethnic differences among Colombian and American participants with depression, Escobar, Gomez, et al. (1983) found that despite the universal existence of a core of depressive symptoms, Colombian participants reported more somatic and psychomotor symptoms of depression. Other studies also have suggested that Mexican-

Americans report less positive affect than their White counterparts (Golding et al., 1991; Roberts, 1992). In a replicative study, Golding et al. (1991) found that the most common symptom among Mexican-American participants with depression was lack of positive affect. The least common symptoms were crying, feelings of failure, and feeling disliked.

Researchers have found that depression, which is highly co-morbid with PTSD (American Psychiatric Association, 1994), may be manifested through different symptoms among different ethnic minorities (Golding, Aneshensel, & Hough, 1991). Results from a study of Mexican-Americans and non-Hispanic Whites suggested that Mexican-Americans were more likely to experience a lack of positive affect as well as report more somatic symptoms. Non-Hispanic Whites were more likely to report feelings of failure, crying, and being disliked (Golding et al., 1991). Fabrega et al. (1994) found that ethnicity is associated with a substantial amount of variation in the level of psychopathology and symptomatology. Escobar, Gomez, and Tuason (1983) found that South American Hispanics differed from their North American White counterparts on somatization indices, psychomotor components, and levels of pathology. These studies collectively suggest that there are different cultural expressions of psychopathology.

The research is very limited in the area of ethnic differences among different psychiatric disorders, but, even more nonexistent, is the theory behind the research. There is no comprehensive universal theory behind the variation in symptom adherence among different psychiatric populations, but many suggestive theories have been made. Golding et al. (1991) stated: "We know of no theoretical grounds for expecting ethnic differences in isolated disparate items. Theory and research do suggest item clusters for which there may be ethnic differences" (p.62). Others have suggested that "stigmatization of the mentally ill by Hispanic societies, a lack of psychological sophistication, and perhaps an attempt to legitimize health-seeking behavior, in view of the high prestige of physicians, coupled with a relative lack of mental health facilities in those cultures, may all contribute to

this trend” (Escobar, Randolph et al., 1983, p. 50). As all ethnic minorities differ in cultural background, it is difficult to generalize a theory from one minority to another.

Ethnicity and PTSD

In 1990, the National Vietnam Veterans Readjustment Study (NVVRS) surveyed 3,016 households of Vietnam Veterans (Kulka et al., 1990). The NVVRS was a government mandated study of the postwar readjustment of Vietnam veterans. The researchers over-sampled ethnic minorities to specifically analyze the differences. The following findings regarding ethnicity and PTSD were examined: (a) prevalence; (b) pre-military/military factors; (c) co-morbidity with other psychiatric disorders; (d) readjustment problems; (e) symptom clusters; and (f) further research suggestions.

Prevalence. Although prevalence is fundamental knowledge and does not give a clinician any insight into treatment, it is knowledge that will shed light on how widespread PTSD is among Vietnam veterans. As stated previously in the NVVRS (Kulka et al., 1990) study, Hispanic veterans had the highest prevalence rates, at 27.9%. Twenty percent (20.6%) of African-American veterans had PTSD while only 13.7% of Whites were found to have the disorder. These results are not surprising, considering that the majority of soldiers who were front-line fighters and who suffered the greatest death and casualty rates, came from the poor and disadvantaged (Pilisuk, 1975). These groups would have been at greater risk for higher levels of pathology (Hollingshead & Redlich, 1958). These results seem to be congruent with the fact that many of the poor and disadvantaged are ethnic minorities. However, more complex factors, in combination with ethnicity, can affect the veteran.

Prevalence estimates of PTSD among ethnic veterans differ according to the population being studied. Most of the research on ethnicity in veteran populations comes from help-seeking, in-patient, substance abuse treatment centers (Lund, Foy, Siprelle, & Stracham, 1984; Penk et al., 1989). Although co-morbidity of PTSD and substance abuse

is extremely high (as much as 75%), this limits generalizability of the results to non-substance abusing populations (Kulka et al., 1990; Penk et al., 1989). Data for this project were collected from veterans seeking help specifically for PTSD, which may be a clinically distinct group from those seeking help for substance abuse disorders.

Kulka et al. (1990) found that there are significant differences in substance abusing veterans and non-substance abusing veterans. Substance abusing veterans were found to have higher levels of combat exposure, higher levels of PTSD, were currently unemployed, had not sought help at the VA or other community resources, had perceived their current health status to be lower, had a high view of subjective well being (possibly denial), were more socially isolated, were more likely to be homeless, had increased expressions of hostility, were more likely to have committed violent acts in the last year, and were more likely to be involved in the criminal justice system. Additionally, Hispanic veterans were more likely to have substance abuse problems than either African-American or Caucasian participants. While 75% of veterans have PTSD and substance abuse problems, only 22% report problems with substances during the times they experienced PTSD symptoms (Kulka et al., 1990). To minimize the number of participants with substance abuse problems, this study utilized a sample of veterans seeking help for PTSD alone (i.e., not seeking help for substance abuse problems). It is recognized that some participants are likely to be substance abusers, however the percentage is smaller in comparison to similar studies using participants from substance abuse treatment centers.

Pre-military/military factors. The NVVRS study examined many pre-military and military factors that may have influenced a veteran's vulnerability to PTSD. Adjusting for family background factors such as demographic characteristics, family socioeconomic status, family social environment, biopsychosocial factors, childhood health and mental health status, as well as general health and mental health status and combat exposure, the NVVRS researchers found:

The adjustment reduced current PTSD prevalence difference between White/other and Hispanic male theater veterans by 57% and the difference between African-American and Hispanic males by 67%. Additionally, the adjustment reduced the difference in current PTSD prevalence between African-American and Hispanic males to 2.4%, a difference that is not significantly different from zero. In other words, the adjustment for potential predisposing factors greatly reduced the current PTSD prevalence differential between White/others and both Hispanics and African-Americans, and wiped out (reduced to zero) the PTSD prevalence difference between African-Americans and Hispanics (Kulka et al., 1990, p.83).

These results suggest that life experience and background factors account for a majority of the variance in PTSD prevalence by race. They do not, however, provide information regarding symptom differences by race.

Co-morbidity with other psychiatric disorders. Kulka et al. (1990) also found ethnic variation in the prevalence of other psychiatric disorders among minority veterans. The four areas of psychopathology analyzed were affective disorders, anxiety disorders, substance abuse disorders, and personality disorders. Although there were no differences in affective disorder prevalence among Hispanic, African-American and White veterans, there was a higher lifetime prevalence in some anxiety disorders among White/other and Hispanic/African-American veterans. Significant ethnic differences in substance abuse prevalence were observed. Hispanics showed higher lifetime prevalence of alcohol dependence and abuse than both White/other and African-American veterans. In the area of personality disorders, African-Americans were more likely than Hispanics to be diagnosed with antisocial personality disorder. Male minority veterans scored higher than their White counterparts on scales that measure demoralization. Furthermore, comorbidity for other psychiatric disorders was also observed to be higher in minority veterans.

Readjustment problems. What happens to a veteran post-war also can have an effect on vulnerability to PTSD. Homelessness, isolation, loneliness, poverty, and entanglement with the criminal justice system are issues that some more troubled veterans have encountered. The researchers involved in the NVVRS (Kulka et al., 1990) study looked at the following areas of readjustment: readjustment problems in general, education and occupation, marital relationship and family adjustment, and selective well being and adult behavior problems. White/other male veterans reported significantly lower levels of readjustment problems than their African-American and Hispanic counterparts.

Significant differences by race/ethnicity were found for both education and occupation. African-Americans were somewhat lower on educational achievement. Also, African-American veterans were more likely to be unemployed than White veterans.

In the areas of marital relationship and family roles, some significant differences were found. White veterans were more likely to be married and more likely to have lower rates on the marital relationship problems index. Hispanics were also more likely than Whites/others to rate themselves higher in the realm of the marital relationship problems index.

In the area of subjective well being and adult behavioral problems, many significant differences were found (Penk et al., 1989). African-Americans and Hispanics had lower ratings on a measure of subjective well being. African-American veterans were more likely to be homeless than White veterans. Both African-American and Hispanic veterans had higher rates than White/other groups in active violent acts in the last year. African-Americans had more criminal justice involvement than White/other veterans.

Other researchers have found other readjustment problems or issues, which are summarized here. Penk et al. (1989) found that African-Americans had more PTSD symptoms than Whites. In another study, Penk et al. (1981) found that African-American veterans were more maladjusted than Whites in males seeking help for substance abuse

disorders. Penk et al. (1981) also found the African-American veterans had significantly elevated scores on MMPI scale 1 (Hypochondriasis), scale 3 (Hysteria), scale 6 (Paranoia) and scale 8 (Schizophrenia). Among heavy combat veterans, African-Americans scored lower on individual styles of coping than their White counterparts (Penk et al., 1981; Litz et al., 1991). Escobar, Gomez et al. (1983) found that highly symptomatic Hispanics had decreased social networks, fewer contacts outside of close family, and had more negative emotionality directed at family members than minimally symptomatic veterans. Escobar, Gomez et al. (1983) also found the following in their research of minority veterans: (a) Hispanics had increased levels of war related stress than either African-Americans or Whites; (b) Hispanic veterans had high unemployment rates; and (c) Hispanic veterans rated themselves high on tests of alienation and discrimination. In summary, it appears that readjustment is more difficult for the minority veteran than for the White veteran.

Symptom clusters. It is apparent from the aforementioned research that ethnically different minority veterans differ in regard to manifestations of psychiatric disorders, readjustment difficulties, prevalences of PTSD and other problems, and pre-military factors than their white counterparts. Ethnic differences are also manifested in symptom presentation. The NVVRS (Kulka et al., 1990) study looked at three symptom clusters and how different minority groups responded to each cluster. The three clusters included: re-experiencing, avoidance, and arousal.

Reexperiencing included the following symptoms: (a) recurrent and intrusive recollections of the event, (b) recurrent distressing dreams of the event, (c) sudden acting or feeling as if the trauma were recurring, and (d) intense psychological distress at exposure to events that symbolize or resemble an aspect of the traumatic event. There are both similarities and differences in race/ethnicity breakdowns in the reexperiencing symptom cluster. Researchers found that estimates were virtually identical in comparing Hispanic and White/other non-combat veterans. The only difference was the nonsignificant

difference between Vietnam era (veterans who were not in the theater) and low or moderate exposure groups. There was no difference in the experience of intrusive symptoms for African-American theater and African-American era veterans. Last, results indicate that Hispanics reported more intrusive symptoms than did either African-Americans or White/other groups. Reexperiencing is, at times, a somatic experience, so this is consistent with the finding that Hispanics tend to somatize in other psychiatric disorders (Escobar, Gomez et. al., 1983).

Avoidance is a cognitive or affective way to avoid thoughts, reminders, and feelings associated with an event, in this case combat experiences. This symptom cluster is commonly expressed as the following: (a) feelings of detachment or estrangement from others, (b) loss of ability to become interested and vitally involved in previously pleasurable activities, and (c) diminished capacity to experience emotions of any type. The NVVRS (Kulka et al., 1990) study found that: (a) African-American male theater veterans showed significantly greater numbing and avoidance when compared with African-American civilian male counterparts, (b) African-American male theater veterans with high war zone stress exposure reported much higher rates of avoidance and numbing symptoms than their civilian male counterparts, and (c) African-American male theater veterans with low/moderate war-zone stress exposure showed much greater numbing and avoidance symptomatology when compared with African-American era veterans. Hispanic veterans showed many of the same trends. Hispanic male theater veterans reported greater lifetime numbing and avoidance symptoms when compared with Hispanic era veterans. Hispanics also showed greater symptomatology than their civilian counterparts. High war zone stress Hispanics showed much greater avoidance and numbing than Hispanic era and civilian counterparts. Hispanics reported greater numbing and avoidance than White/other and African-American male theater veterans.

The last cluster of symptoms examined by the researchers in The NVVRS (Kulka et al., 1990) study is the area of arousal. These symptoms include: (a) difficulty falling asleep, (b) irritability or outbursts of anger, (c) difficulty concentrating, (d) hypervigilance, (e) exaggerated startle response, and (f) physiological reactivity to events that symbolize or resemble an aspect of the event. African-American theater veterans reported more arousal symptoms than civilians. High-exposure Hispanic theater veterans were much more likely to report arousal symptoms than era veterans or civilians. The only significant result in comparing the Hispanic, African-American, and White/other groups was that Hispanic male theater veterans were more likely to experience arousal symptoms than White/other male theater veterans. These results indicate differences in PTSD symptomatology among African-American, Hispanic, and White/other groups.

Recommendations for future research. The NVVRS (Kulka et al., 1990) provides extensive information regarding the effects of the Vietnam War. However, because of the complexity of obtaining all the possible factors in the life of a Vietnam veteran, several areas of study remain. Kulka and colleagues (1990) suggest that future research focus on several unanswered questions: (a) Are there differences in the symptomatic expression of PTSD in minority group members? (b) What characteristics account for the apparently greater vulnerability to PTSD among Hispanic theater veterans? (c) Are there other identifiable subgroups with increased vulnerability to the development of PTSD? (d) Would a detailed, multidimensional examination of the Vietnam experience reveal differences that are related to the current prevalence of PTSD? and (e) What are the differences among racial/ethnic subgroups in the relationship among PTSD, other psychiatric disorders, and risk factors? (Kulka et al., 1990). This study was developed to address the first question proposed by Kulka and colleagues (1990): identifying symptomalogical differences among ethnic minority veterans.

Current Study

This literature review was intended to shed light on the research on Vietnam veterans who come from different ethnic/cultural backgrounds. The aim of this study is to increase our understanding of the symptomalogical differences in ethnic minorities who have been diagnosed with PTSD. The following rationale underlies the hypothesis for different expression of symptomatology:

1. African-American and Hispanic veterans were in the middle of social upheaval at the onset of the Vietnam War. They were fighting for their rights domestically and then were asked to defend the honor of the United States abroad. This placed them in the position of defending the honor of a country that was not defending their rights.

2. African-Americans and Hispanics manifest other psychiatric disorders differently than do their White counterparts.

3. African-American and Hispanic Vietnam veterans seem to present more acute predisposing factors which may, in turn, affect the way they manifest PTSD symptoms.

4. African-American and Hispanic Vietnam veterans have been found to develop higher levels of symptom clusters than Caucasian veterans.

5. The African-American and Hispanic experience is very different with regard to demographic and cultural factors.

Several factors make this study different from the NVVRS study. First, the NVVRS study did not control for such factors as combat exposure, age, education, and current SES, when they analyzed race/ethnic differences. Second, the population analyzed in this study consists of help-seeking veterans, which is unique from previous studies. Third, individual symptom analysis will be conducted. Fourth, the aim of this study is to understand symptom variation among different ethnic groups so that treatment can be more effective.

To test whether this sample of participants replicate previous studies on ethnic differences in symptomatology among veterans, several hypotheses will be tested. First, it is hypothesized that African-American, Caucasian, and Hispanic veterans will differ significantly in PTSD symptomatology. Research questions to be examined include (a) several covariates (age, combat exposure, marital statuses, and SES) significantly effect the Mississippi Scale for Combat Related PTSD; (b) Hispanics report more reexperiencing symptoms than African-American and Caucasian participants; (c) African-American and Hispanic participants report more numbing than their White counterparts; and (d) African-American and Hispanic veterans report more arousal symptoms than Caucasian participants. Potential confounds such as educational level, combat exposure, age, and current SES will be controlled in analyzing for effects.

METHOD

Participants/ and Data Collection

A sample of 200 in-patient male Vietnam veterans seeking treatment for PTSD at the Veterans Affairs (VA) Medical Center in Menlo Park, California was used (see Appendix A). This sample included 30 African-American participants, 28 Hispanic participants, and 127 Caucasian participants.

This study utilized archival data that had been collected by researchers at the VA Hospital in Menlo Park. The study has been approved by the Human Subjects Institutional Review Board (see Appendix B). The data were collected, after informed consent was given by the participants, as part of the intake assessment procedure by board certified psychologists. The intake procedure includes a battery of psychological tests (e.g., Beck's Depression Inventory, Combat Exposure Scale, Impact of Events Scale, Mississippi Scale for Combat Related PTSD, Beck's Anxiety Inventory, Minnesota Multiphasic Personality Inventory-II, and a demographic questionnaire). The testing procedure takes approximately six hours and takes place in an assessment room.

The Combat Exposure Scale (Keane et. al., 1989) and the Mississippi Scale for Combat Related PTSD (Keane et. al., 1988) were chosen as the data set. These tests were used in this study for a number of reasons. First, these test all have high reliability and validity. Second, these instruments are used extensively in research involving Vietnam veterans. Third, these test were accessible through the VA at the National Center for PTSD.

Instruments

Demographic Questionnaire. A demographic questionnaire contained all information pertinent to this study such as race/ethnicity (independent variable), age, educational level, and current SES, as well as other information.

Combat Exposure Scale (CES). The CES (see Appendix C) was developed by Keane et al. (1989) to measure the intensity of combat exposure of Vietnam veterans. This is a 7-item, 5-point self-rating Likert scale that asks the subject to estimate the frequency of Vietnam combat-related experiences (e.g., frequency of combat patrols, being under fire). Items are endorsed according to severity and summed with a range of 0-35. The CES has high internal consistency ($\alpha = .85$) and a high 1-week test-retest reliability ($r = .97$) (Keane et al., 1989). The construct validity was determined to be high ($r = .86$) when compared to other measures (Lund, Foy, Sipprelle, & Strachan, 1984).

Mississippi Scale for Combat Related PTSD. The Mississippi Scale (see Appendix D) was developed by Keane, Caddell, and Taylor (1988) in order to measure PTSD symptom severity in Vietnam veterans. It is a 35-item, 5-point Likert scale questionnaire originally developed to assess PTSD symptomatology and other associated features, according to the DSM-III. The internal consistency rate is very high ($\alpha = .94$) (Keane et al., 1988). The Mississippi Scale also has high sensitivity (93%) and specificity (89%) in discriminating various PTSD and non-PTSD populations (Miller, Kamenchenko, & Krasniasnski, 1992). Subsequent validation studies have found similar high levels of

sensitivity and specificity (Keane et al., 1988). The total scores are summed with a range of 35-175.

There are four different subscales included in the Mississippi Scale for Combat Related PTSD. These subscales include arousal, reexperiencing, numbing, and self-persecution.

RESULTS

Preliminary Analysis

A description of the study participants by ethnicity is provided in Table 1. In this sample there many more Caucasian participants ($n=127$) than African-American ($n=30$) or Hispanic participants ($n=28$). Anova were run for all possible covariates by race (African-American, Caucasian, and Hispanic). The only variable that significantly differed by ethnicity was age. Caucasian participants ($M=47.3$, $SD= 4.7$) were significantly different ($p<.05$) from African-American participants ($M=49.4$, $SD= 4.3$). The mean age of Hispanic participants ($M=47.0$, $SD= 2.7$) did not differ from African-Americans or Caucasians.

Most of the participants (76%) had at least a high school education. Most (61%) were divorced or separated. A large majority (88%) of these veterans earned less than \$30,000 a year and many (52%) were living under the poverty line. All groups were equal in levels of combat exposure.

There were no major deviations in normality in the data analyzed. A preliminary correlation matrix of the dependent variables and covariates was generated, and the relationships among the possible covariates and dependent variables were examined.

Choice of Covariates

A description of the covariates with significant relationships with the Mississippi Scale and subscales is provided in Table 2. Significant inverse relationships were found between the numbing ($r = -.18$; $p = .02$), and the self-persecution ($r=-.25$; $p= .001$)

TABLE 1

Means and Standard Deviation of Demographic Variables

	<u>Ethnicity</u>		
	African-American (<u>n</u> = 30)	Caucasian (<u>n</u> = 127)	Hispanic (<u>n</u> = 28)
Age	49.43 (4.32) _a	47.26 (4.70) _a	46.98 (2.68)
Current Income ^a	1.52 +/- .99	1.98 +/- 1.32	1.923 +/- 1.26
Education ^b	4.90 (.94)	4.33 (1.34)	4.31 (1.42)
Marital Status ^c	3.37 (1.47)	2.98 (1.40)	2.71 (1.74)
Combat Exposure ^d	4.90 (.94)	4.33 (1.34)	4.31 (1.42)

Note. Standard deviations in parentheses.

Means in the same row that share subscripts differ at $p > .05$ in the Tukey honestly significant difference comparison.

^a refers to a mean current income of 10,001- 20,000

^b refers to some college or trade school

^c refers to living with a partner or separated

^d refers to a mean out of a 37 pt scale

TABLE 2

Bivariate Correlations of Age and CES to Mississippi Scale Total and Subscales

Dependent Variable	<u>Covariates</u>	
	Age	CES
	<i>r</i>	<i>r</i>
Mississippi Scale Total	-.1385*	.1023
Arousal	-.1162	.0837
Numbing	-.1764*	.0430
Reexperiencing	-.0741	.1525*
Self persecution	-.2510**	.0938

* $p < .05$ ** $p < .01$

subscales. The younger the veterans were, the higher the numbing and self-persecution subscale score. A positive relationship was found between combat exposure and the reexperiencing subscale ($r = .15$; $p = .039$). No significant relationship was found for the other covariates.

MANCOVA

A one-way MANCOVA was computed with the of Mississippi Combat total and subscale scores as the dependent variable, race (African-American, Caucasian, and Hispanic) as the independent variable, and combat exposure and age as covariates. With an alpha level of .05, the race of the participants did not differ significantly ($MV F [10, 348] = .322$). Table 3 summarizes the means and univariate F 's for the dependent variables. Additional analyses were executed without the covariates using a one-way ANOVA and no significant differences were found.

DISCUSSION

The following areas will be discussed in this section: (a) explanations and examination of the results of this study; (b) the limitations of this study; and (c) suggested follow-up research. Although differences between veterans of ethnic backgrounds were hypothesized, results indicate that there were no significant differences in symptomatology among African-American, Caucasian, and Hispanic participants. There are several possible explanations for these results. First, in other studies which found significant difference in symptomatology of Vietnam veterans, the sample being studied was very different (Kulka et al., 1990). The NVVRS (Kulka et al, 1990) used a random sample of Vietnam veterans, both non-help-seeking and help-seeking. This group was fairly heterogeneous. The sample used in this study was fairly homogenous in that all participants were in-patients seeking help to alleviate PTSD symptoms. The sample utilized in this study may have been so distressed and at a certain level of pathology that there may be no significant differences between different racial groups.

TABLE 3

Mean Scores by Race for the Mississippi Scale Total and Subscale Scores

Variable	African-American (<u>n</u> = 30)	Caucasian (<u>n</u> = 127)	Hispanic (<u>n</u> = 28)	<u>F</u> (2,178)	<u>Eta</u> ²
Mississippi Scale	135.46	133.99	137.61	.63	.007
Arousal	30.27	30.60	30.99	.18	.002
Numbing	44.56	44.93	45.43	.17	.002
Reexperiencing	41.34	39.30	40.35	1.9	.021
Self Persecution	17.70	17.22	17.94	1.1	.013

Second, the hypothesis might not have been confirmed due to the small sample size in the minority groups. There were 30 African-American participants and 29 Hispanic participants. Only a small percentage of ethnically diverse soldiers participated in the Vietnam war and few utilize the PTSD clinic at the VA. The NVVRS study (Kulka et al., 1990) over-sampled for minority veterans and the researchers found significant differences by race.

Third, differences might not have been found among different ethnic groups because the instruments used were not sensitive to possible cultural variations. The Mississippi Scale for Combat Related PTSD is a limited instrument, in that it only assesses for PTSD symptoms. It may be that ethnic minorities manifest PTSD in a way that incorporates symptoms other than those tapped by the Mississippi Scale. For instance, Hispanics manifest more somatic symptoms in other forms of psychopathology (Angel & Guarnaccia, 1989). It can be deduced that the Hispanic soldier may also present symptoms of PTSD with more somatic complaints. These somatic symptoms may not be detected using the Mississippi Scale. African-Americans have shown more “acting out” symptoms in other psychiatric disorders (Penk et al., 1989) and it is possible that African-American soldiers may manifest PTSD with more “acting out” type symptoms. Adjunct measures would have helped to create a more sensitive battery to get a comprehensive understanding of the ethnic symptomalogical differences.

A final explanation of the results of this study may be that the effects of PTSD diminish post-war. Comparative data from immediately after the war would be interesting in understanding whether ethnic differences existed 20 years ago but then dissipated over time.

In preliminary analyses of the data, some relationships were found among covariates and independent variables. An inverse relationship was found to exist between age and the Mississippi Scale total score and the numbing and self-persecution subscales.

Similar findings emerged in the NVVRS study. The researchers state, “ those who were 17-19 years of age when they first entered Vietnam were more likely to have current PTSD (25.2 percent) than those who were older at the time of entry” (Kulka et al., 1990, p.54). Some explanations for this finding will be presented here. It is quite possible that the younger men in this study entered the war after the Pre-Tet offensive, when public opinion for the Vietnam war turned sour. These younger soldiers also may have witnessed friends, family, or schoolmates return from the war before they left. They may have had to use numbing as a way to cope with what they were about to experience. Another explanation for the age difference is development of personality. It may be that these younger men were at a less mature emotional and developmental level and were unable to process the traumatic event as well as the older veterans. These younger veterans may have experienced guilt for their actions and may have been unable to understand the context of war. The younger veterans may not have had well-developed defenses to insulate themselves from the atrocities they witnessed. Further research is needed to account for these differences.

A significant relationship was found between combat exposure and reexperiencing. It appears that the more combat exposure a veteran experiences, the more symptoms of reexperiencing he experiences. It appears that veterans are haunted by what they have seen and endured. Similar findings have been noted by other researchers (Foy, Carroll, & Donahoe, 1987; Penk et al., 1981; Schlenger et al., 1992). The current sample seems somewhat aberrant from those of the previous studies mentioned in that combat exposure was significantly related only to the reexperiencing subscale while other researchers have found combat exposure to be significantly related to all of the subscales on the Mississippi Scale (Kulka et al., 1990). It may be that the symptoms of PTSD were extremely acute in this sample, and the only difference combat exposure had, was to magnify reexperiencing.

It is further plausible that veterans in this study were involved in higher levels of combat exposure than the norm.

Several limitations of this study need to be addressed. There was a lack of representation of participants in the minority groups. This study made use of archival data, and it is unknown how acculturated the minority veterans were. It may be that many of these veterans were very acculturated, which would minimize the differences between the subgroups. Another limitation is the use of the Mississippi Scale. It would have been useful to obtain a battery of tests that are sensitive to possible differences between the different ethnic groups. Last, the participants used in this study were all in-patients being treated for PTSD. It may be that there was a certain ceiling effect, in that this sample was in acute distress. Maybe a more broad-band representation of participants needs to be employed in order to understand the ethnic differences between participants.

The field of trauma may benefit from continued research in the area of ethnicity and symptomatology in veterans with PTSD. Several alterations in use of instruments may be needed in order to understand the differences in symptomatology among veterans. Instruments that are sensitive to somatization, aggression, and affect may be effective in further analysis of differences among ethnic minority veterans. Previous studies (Kulka et al., 1990) have detected differences in symptomatology among veterans with different ethnic backgrounds. More systematic research is needed in this area that employs different methodologies, instruments, and samples to validate previous studies.

This study added to the understanding of PTSD by finding that heterogeneous veteran populations, such as in-patient treatment center patients, do not differ significantly in terms of symptomatology from veterans with different ethnic backgrounds. "There is one great fear in the heart of every serviceman and it is not that he will be killed or maimed, but that when he is finally allowed to go home and piece together what he can of life, that he will be made to feel that he has been a sucker for the sacrifices he has made" (Stouffer et

al., 1949, p. 39). With additional knowledge in the area of PTSD, the more sophisticated and efficient the treatment interventions can become and the better we can serve those who fought to serve and protect their country.

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Appendix A

DEPARTMENT OF VETERANS AFFAIRS
Medical Center
3801 Miranda Avenue
Palo Alto CA 94304

PTSD 48

April 2, 1996

In Reply Refer To:

Suzanne Budrick
Department of Psychology
San Jose State University
San Jose, CA

Dear Suzanne;

This is a letter confirming our arrangement regarding use of archival clinical data from the National Center for PTSD. As we discussed in person, you may have the permission of the National Center for PTSD to access archival clinical information from our treatment program for purposes of completing your Master's Thesis titled "Posttraumatic stress disorder and ethnicity: An analysis of symptomatology." Any publication or presentation of this data will be in full collaboration with the National Center. We are very interested in your analyses as they relate to our ongoing efforts at program evaluation, and will be attempting to make use of these data to improve our treatment efforts.

The dataset you have received has no names or other identifying information accompanying it. As with all research use of patient information you must make every effort to protect the confidentiality of the patient information you have received.

Please keep me apprised as to the results of your upcoming analyses!

Sincerely,

A handwritten signature in black ink, appearing to read "Kent D. Drescher".

Kent D. Drescher, Ph.D.
Assessment and Data Management Coordinator

Appendix B

Office of the Academic Vice President • Associate Academic Vice President • Graduate Studies and Research
One Washington Square • San Jose, California 95192-0025 • 408/924-2480

TO: Suzanne Budrick
2816 Porto Rosa Way
San Carlos, CA 94070

FROM: Serena W. Stanford
AAVP, Graduate Studies & Research

DATE: April 9, 1996

The Human Subjects-Institutional Review Board has approved your request to use human subjects in the study entitled:

"Post-Traumatic Stress Disorder and Ethnicity: An
Analysis of Symptomatology"

This approval is contingent upon the subjects participating in your research project being appropriately protected from risk. This includes the protection of the anonymity of the subjects' identity when they participate in your research project, and with regard to any and all data that may be collected from the subjects. The Board's approval includes continued monitoring of your research by the Board to assure that the subjects are being adequately and properly protected from such risks. If at any time a subject becomes injured or complains of injury, you must notify Serena Stanford, Ph.D., immediately. Injury includes but is not limited to bodily harm, psychological trauma and release of potentially damaging personal information.

Please also be advised that all subjects need to be fully informed and aware that their participation in your research project is voluntary, and that he or she may withdraw from the project at any time. Further, a subject's participation, refusal to participate, or withdrawal will not affect any services the subject is receiving or will receive at the institution in which the research is being conducted.

If you have any questions, please contact me at (408) 924-2480.

Appendix C

COMBAT EXPOSURE SCALE

PTSD 52

Keane, T.M., Fairbank, J.A., Caddell, J.M., Zimering, R.T., Taylor, K.L., & Mora, C.A. (1989).
Clinical evaluation of a measure to assess combat exposure. *Psychological Assessment*,
1(1), 53-55.

Instructions:

Please circle the number that best answers each corresponding question.

1. Did you ever go on combat patrols or have other very dangerous duty? (drive in convoys, in a combat zone, patrol rivers, helicopter assaults, perimeter guard duty, etc.,)

1	2	3	4	5
No	1-3 times	4-12 times	13-50 times	51 or more times

2. Were you ever under enemy fire?

1	2	3	4	5
Never	less than 1 mo	1-3 mos	4-6 mos	7 mos or more

3. Were you ever surrounded by the enemy?

1	2	3	4
No	1-2 times	3-12 times	More than 12 times

4. What percentage of the men in your unit were killed (KIA), wounded, or missing in action (MIA)?

1	2	3	4
None	1-25%	26-50%	More than 50%

5. How often did you fire rounds at the enemy?

1	2	3	4	5
Never	1-2 times	3-12 times	13-50 times	51 or more times

6. How often did you see someone hit by incoming or outgoing rounds? (at the moment it happened or very soon after, enemy or American)

1	2	3	4	5
Never	1-2 times	3-12 times	13-50 times	51 or more times

7. How often were you in danger of being injured or killed (e.g., pinned down, overrun, ambushed, near miss, etc.)?

1	2	3	4	5
Never	1-2 times	3-12 times	13-50 times	51 or more times

Appendix D

Name: _____

Date: _____ PTSD

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The Mississippi Scale - R

Instructions:

Circle the number that best describes how you feel about **each** statement.

1. Before I entered the military I had more close friends than I have now.

1	2	3	4	5
Not At All	Slightly	Somewhat	Very	Extremely
True	True	True	True	True
2. I do not feel guilt over things that I did in the military.

1	2	3	4	5
Never	Rarely	Sometimes	Usually	Always
True	True	True	True	True
3. If someone pushes me too far, I am likely to become violent.

1	2	3	4	5
Very	Unlikely	Somewhat	Very	Extremely
Unlikely		Likely	Likely	Likely
4. If something happens that reminds me of the military, I become very distressed and upset.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
5. The people who know me best are afraid of me.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
True	True	True	True	True
6. I am able to get emotionally close to others.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
7. I have nightmares of experiences in the military that really happened.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
8. When I think of some of the things that I did in the military, I wish I were dead.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
True	True	True	True	True
9. It seems as if I have no feelings.

1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
True	True	True	True	True

10. Lately, I have felt like killing myself.
1	2	3	4	5
Not At All	Slightly	Somewhat	Very	Extremely
True	True	True	True	True
11. I fall asleep, stay asleep and awaken only when the alarm goes off.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
12. I wonder why I am still alive when others died in the military.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
13. Being in certain situations makes me feel as though I am back in the military.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
14. My dreams at night are so real that I waken in a cold sweat and force myself to stay awake.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
15. I feel like I cannot go on.
1	2	3	4	5
Not At All	Rarely	Sometimes	Very	Almost Always
True	True	True	True	True
16. I do not laugh or cry at the same things other people do.
1	2	3	4	5
Not At All	Slightly	Somewhat	Very	Extremely
True	True	True	True	True
17. I still enjoy doing many things that I used to enjoy.
1	2	3	4	5
Never	Rarely	Sometimes	Very	Always
True	True	True	True	True
18. Daydreams are very real and frightening.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
True	True	True	True	True
19. I have found it easy to keep a job since my separation from the military.
1	2	3	4	5
Not At All	Slightly	Somewhat	Very	Extremely
True	True	True	True	True

20. I have trouble concentrating on tasks.
1	2	3	4	5
Never True	Rarely True	Sometimes True	Frequently True	Very Frequently True
21. I have cried for no good reason.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
22. I enjoy the company of others.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
23. I am frightened by my urges.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
24. I fall asleep easily at night.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
25. Unexpected noises make me jump.
1	2	3	4	5
Never	Rarely	Sometimes	Frequently	Very Frequently
26. No one understands how I feel, not even my family.
1	2	3	4	5
Not At All True	Slightly True	Somewhat True	Very True	Extremely True
27. I am an easy-going, even-tempered person.
1	2	3	4	5
Never	Rarely	Sometimes	Usually	Very Much So
28. I feel there are certain things that I did in the military that I can never tell anyone, because no one would ever understand.
1	2	3	4	5
Not At All True	Slightly True	Somewhat True	Very True	Extremely True
29. There have been times when I used alcohol (or other drugs) to help me sleep or to make me forget about things that happened while I was in the service.
1	2	3	4	5
Never	Infrequently	Sometimes	Frequently	Very Frequently
30. I feel comfortable when I am in a crowd.
1	2	3	4	5
Never	Rarely	Sometimes	Usually	Always

31. I lose my cool and explode over minor everyday things.
1 2 3 4 5
Never Rarely Sometimes Frequently Very Frequently
32. I am afraid to go to sleep at night.
1 2 3 4 5
Never Rarely Sometimes Frequently Almost Always
33. I try to stay away from anything that will remind me of things which happened while I was in the military.
1 2 3 4 5
Never Rarely Sometimes Frequently Almost Always
34. My memory is as good as it ever was.
1 2 3 4 5
Not At All Rarely Somewhat Usually Almost Always
True True True True True
35. I have a hard time expressing my feelings, even to the people I care about.
1 2 3 4 5
Not At All Rarely Sometimes Frequently Almost Always
True True True True True
36. At times I suddenly act or feel as though something that happened in the military were happening all over again.
1 2 3 4 5
Not At All Rarely Sometimes Frequently Almost Always
True True True True True
37. I am not able to remember some important things that happened while I was in the military.
1 2 3 4 5
Not At All Rarely Somewhat Usually Almost Always
True True True True True
38. I feel "superalert" or "on guard" much of the time.
1 2 3 4 5
Not At All Rarely Sometimes Frequently Almost Always
True True True True True
39. If something happens that reminds me of the military, I get so anxious or panicky that my heart pounds hard; I have trouble getting my breath, I sweat, tremble or shake; or feel dizzy, tingly, or faint.
1 2 3 4 5
Never Rarely Sometimes Frequently Very Frequently