Chapter 18

FOLLOW-UP STUDIES OF VETERANS

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Marion Greenwood *The Dental Front* 1945

Marion Greenwood created a series of watercolors depicting the work of the U.S. Army Medical Department at the England General Hospital in Atlantic City, New Jersey during World War II. This watercolor portrays wounded soldiers waiting for their next medical procedure, in this case a visit with the dentist. Many of these seriously-wounded soldiers will be separated from the service for medical reasons and will receive their follow-up care through Veterans Administration hospitals.

Art: Courtesy of US Army Center of Military History, Washington, DC.

INTRODUCTION

The role of "soldier" has been glorified throughout the ages as a noble and honorable calling. The age of modern warfare, beginning with World War I, has been no exception. Soldiers such as Alvin York and Audie Murphy have been immortalized for their heroic deeds on the battlefield. The late actor, John Wayne, became the idol of millions for his combat soldier portrayals in countless movies. These romanticized depictions of wars and the men who fought in them tend to make one forget that war is a brutal and dehumanizing experience for many men.

Soldiers are often simply common men driven by geopolitical forces beyond their control into the role of combatant and, as such, typify the strengths and weaknesses inherent in all men. The vast majority of soldiers are not career military men. After wars' end, soldiers once again become civilians and return to their families to try to pick up where they left off. It is this process of readjustment that has more often than not been ignored by society. It is the soldier who is prized and valued, not the ex-soldier. The purpose of this chapter is to document the scientific attempts to follow up on veterans since the end of World War I to gain insight into the readjustment process and the successes and failures of veterans who were affected to different degrees by their war experiences.

WORLD WAR I STUDIES

Follow-up studies of veterans in the modern age of warfare began with the work of Salmon and Fenton[1] on the psychological adjustment of veterans of World War 1. In 1919, and again in 1924, Salmon and Fenton studied the postwar adjustment of a sample of veterans who had been hospitalized for war neuroses at Base Hospital No. 117 in France. Base Hospital No. 117 was the third-echelon facility which received those stress casualties who had not been returned to duty immediately by the division psychiatrist or after 3 to 5 days at the field hospital in the division rear. They had either failed to recover in 3 weeks at one of the three neurological hospitals or had been evacuated to the nonpsychiatric hospitals in the rear and therefore had been transferred to Base Hospital No. 117. They were the most severe cases.

The 1919–1920 Study

Preparation for the study was begun shortly after the armistice was signed. The purpose of the study was to determine the condition of a typical group of diagnosed war neurosis cases after their return to the civilian community in the United States. Questionnaire data were used to determine how well or poorly these men were getting along in terms of ability to work and contribute to society. The data do not provide for adequate clinical conclusions for a medical diagnosis of neurosis during follow-up, but do provide insight into problems and difficulties in attempts at readaptation. Data were collected from 758 veterans out of the 2,590 veterans who had been hospitalized at Base Hospital No. 117 in France.

Subjects were classified according to social status and ability to work and be self-supporting. These classifications were normal, neurotic, fatigued, disabled, and psychotic. The "normal" group consisted of men who went back to work to support themselves and their families and readjusted easily to civilian life. Many of these men noted tendencies to become angry or easily excited, nervous, restless, forgetful, and suffered from slight headaches or dizziness. For the most part these men were in good health, self-supporting, and happy.

The "neurotic" group consisted of those men who had only partially adjusted to their way of life prior to entering the military. They continued to suffer from one or more nervous difficulties and were either under a physician's care or had consulted one about their problems. They were able to return to work but were often unhappy because of their neurotic problems. These men tended to exhibit some of the same symptoms shown in France: tremors and tics, speech defects, weakness, insomnia, jumpiness, inability to concentrate, and memory disorders. These men also reported a great many minor injuries and serious accidents resulting from their nervous condition. Many men in this group were no longer able to function in their former jobs in machine shops or factories, but found working outdoors as salesmen, farmers, laborers, etc. less difficult.

The "fatigued" group consisted of men who could not work regularly without suffering and being bedridden. These men experienced fatigue, severe headaches, lack of ambition, depression, and were only able to work about one half of the time. The "disabled" group consisted of those men who were rehospitalized for psychoneurosis or reported a "nervous breakdown" or some incapacitating disease such as tuberculosis. The last group, the "psychotics," consisted of men who suffered from conditions such as dementia praecox, psychopathic personality, and epilepsy.

The current adjustment of these men according to the preceding classifications was then compared to the military classifications used by the U.S. Army in France to estimate the man's future military usefulness at the time of his discharge from Base Hospital No. 117. These men had been classified in one of four categories, as follows:

- Class A: Officers and enlisted men fit for combat service.
- Class B: Officers and enlisted men temporarily unfit for combat service but physically fit for other duty and restorable to Class A status within 6 months.
- Class C: Officers and enlisted men permanently unfit for combat service but capable of other supply-oriented service.
- Class D: Officers and enlisted men unfit for any duty within the American Expeditionary Forces.

This classification system took into account factors such as health, strength, and endurance which would be of significance in both U.S. Army and civilian life. The authors reasoned that if the classifications were adequately made, then some positive correlation should exist between these classifications and the men's later (1919–1920) conditions. The percentages of veterans in each group in the follow-up sample were very similar to the percentages of all cases at the hospital assigned to each group. These percentages for follow-up vs all cases were as follows:

Category	Follow-up Cases	All Cases
Class A	24.8%	19.6%
Class B	36.6%	39.2%
Class C	29.3%	31.8%
Class D	7.5%	6.6%

An additional 1.8% of the follow-up group and 2.9% of the total group had been transferred to another hospital unclassified.

In the 1919 to 1920 time frame, the veterans' groups were adjusting as follows:

- Class A: 68.1% were adjusting adequately (45.2% were normal, 22.9% were neurotic).
- Class B: 64.8% were adjusting adequately (41.8% were normal, 23% were neurotic).
- Class C: 55.4% were adjusting adequately (33.3% were normal, 22.1% were neurotic).
- Class D: 40.3% were adjusting adequately (21% were normal, 19.3% were neurotic).

The next stage in the study consisted of an inquiry into the question of mental disease diagnosis at discharge and its relation to functioning levels for the 1919 to 1920 period. For this comparison subjects were divided into two groups. Working veterans were those in the normal and neurotic categories. Disabled veterans were those in the fatigued, disabled, and psychotic categories. An examination of the percentages of various mental diagnoses associated with the working veterans revealed that the typical war neuroses at that time, primarily concussion, gas, and anxiety types, ranked very high in terms of successful readaptation (75% of veterans diagnosed as having anxiety neurosis, 73.4% of veterans with gas neurosis, and 67.8% of veterans with concussion neurosis at discharge were among the working veterans in 1919–1920). The less successfully readapted veterans were those whose diagnoses were of the more pronounced constitutional types such as hypochondriasis, neurasthenia, psychasthenia, and hysteria. Thus, veterans whose diagnosis reflected a recent onset of symptoms in response to war-related trauma exhibited a greater degree of readjustment than those veterans whose diagnoses reflected a certain constitutional susceptibility.

Additional observations revealed a slight tendency for younger men to do better in their readjustment than the older men, as well as a tendency for those of "good stock" and make-up to readapt themselves better to civilian life than those from "poor stock" and make-up. It was also found that men whose occupations required somewhat more intelligence for performance were better able to readapt than men whose occupations demanded less intelligence.

The 1924–1925 Study

A second follow-up of veterans from Base Hospital No. 117 was conducted in the period 1924 to 1925. Data were obtained from 763 subjects. Hospital estimates of potential military value at time of discharge were again compared to current functioning. As before, the veterans' current functioning was determined relative to their original classification grade as follows:

- Class A: 83% were functioning adequately (40.7% normal, 42.3% neurotic)
- Class B: 85.9% were functioning adequately (39.1% normal, 46.8% neurotic)
- Class C: 73.9% were functioning adequately (30% normal, 43.9% neurotic)
- Class D: 72.7% were functioning adequately (40.9% normal, 31.8% neurotic)

Thus, these hospital estimates of future U.S. Army potential again were predictive of future civilian readjustment.

A follow-up comparison of the relationship of specific mental diagnoses to current functioning again revealed that veterans with typical war neuroses of that time (gas syndrome, exhaustion, concussion, anxiety) showed greater evidence of recovery than those with more pronounced constitutional types (neurasthenia, psychasthenia, hypochondriasis). More important is the observation that practically every diagnostic group showed an increase in the percentage of veterans who had readapted adequately from the first period (1919–1920) to the second period (1924–1925).

Whereas in the 1919 to 1920 follow-up younger veterans seemed to be readapting better than older veterans, the 1924 to 1925 follow-up found a tendency for the extreme age groups, both younger and older, to make poorer readaptations than men in the middle age range. The finding in the 1919 to 1920 study of a positive relationship between family history and current functioning was not found in the 1924 to 1925 study. Personal and family histories were not in themselves predictive of future civilian readjustment.

Occupational data from the 1924 to 1925 study revealed that former war neurotics who had difficulty working at manufacturing trades in urban areas were able to readapt fairly successfully in agricultural work. Overall, the 5 years between follow-up studies showed evidence of a great deal of improvement among veterans of Base Hospital No. 117. The percentage of veterans who were able to function adequately increased from 60.9% to 80.8%. The fatigued veterans, who were able to work only about one half the time, decreased from 17.3% to 9.8% while the disabled and psychotic groups, who were not able to work, decreased from 21.7% to 9.4%. Salmon and Fenton[1] speculated that the most important factor underlying this marked improvement was the focus of various governmental and social agencies on the problems of soldiers that led to their becoming an asset rather than a burden upon society.

WORLD WAR II STUDIES

The conclusion of World War II saw a continued interest in the postwar psychological adjustment of servicemen. The most comprehensive follow-up study to emerge from the World War II literature is that of Brill and Beebe.[2] This study was generated as a result of the establishment by the National Research Council of a Committee on Veterans Medical Problems whose task was to develop a program of medical follow-up studies based on the medical experience of the Armed Forces and the Veterans Administration.

The study was conducted using subjects drawn from representative samples of 8,000 U.S. Army (including U.S. Air Force) and 2,216 U.S. Navy and Marine Corps veterans who had been diagnosed as suffering from a psychoneurosis during service (both combat and noncombat) in World War II. Psychoneurosis included the following types of disorders: hysteria; anxiety state; hypochondriasis; neurasthenia; neurocirculatory asthenia; obsessive–compulsive; psychasthenia; phobias; reactive depression; psychoneurosis; and others, unqualified, unspecified, including combat exhaustion.

From these U.S. Army and U.S. Navy rosters a "clinical" sample of 955 veterans with psychoneurosis was selected to receive a 4-hour examination by one of 225 psychiatrists nationwide who had agreed to participate in the project. A second "record" sample of 520 U.S. Army and U.S. Navy cases of psychoneurosis was selected to be studied on the basis of military records.

A control group of 397 U.S. Army enlisted men was chosen at random such that the number among them who saw service during each month in 1944

was proportional to the number of psychiatric admissions during each month of that year. Data for controls consisted of information on their military and medical histories during service. A second control group was added in 1951 in response to the Korean mobilization. This group consisted of 502 new recruits who were given psychiatric examinations as they were received in large training divisions immediately after induction.

The first objective of the study was to determine the characteristics of the clinical and record samples and the ways they differed from the general military population both before and during military service in relation to the chance of breakdown in service. The second objective was to determine the etiology of combat breakdown, its progression during service, and its effects on subsequent military performance. The third major goal was to learn what happened to these men after they left the service and to describe their follow-up psychiatric status approximately 5 years after breakdown. Of particular importance to this review are the results of this third goal. For data regarding the first two objectives the reader is referred to Brill and Beebe.[2]

Mortality

A mortality check on the 1,475 U.S. Army and U.S. Navy veterans in the clinical and record samples was made in 1953. A total of 36 deaths were discovered in comparison to an expected 31 deaths among same age males in the general population. An examination of cause of death revealed a relatively high suicide rate for subjects in the study (six suicides compared to only two expected).

Symptom Prevalence

During the examination, only 8.7% of examined cases and an estimated 10.1% of the entire clinical sample reported experiencing no psychiatric symptoms. The most common symptoms reported by the subjects were anxiety (45.3%); depression (29.6%); nightmares (22.1%); insomnia (31.9%); headache (42.8%); irritability (48.6%); difficulty in concentration (20.1%); restlessness (45.4%); and psychogenic somatic complaints of the gastrointestinal (41.7%), cardiovascular (21.9%), and musculoskeletal systems (34.8%). In addition, 9.5% of subjects reported alcoholism, 10.1% reported hysteria, and 9.8% reported phobias.

The examiners traced these psychiatric symptoms and psychogenic somatic complaints back to their origin to determine which were evident before service, which first appeared during service, and which appeared after discharge. Rather than examining the origin of each symptom, a summary was made for each subject and a significant number (19%) presented different complaints originating both before and during service. All symptoms originated before service for 24% of subjects and during service for 43% of subjects. Only 4% of subjects had all symptoms develop after discharge.

When asked to assess their own health, the subjects indicated that, when compared to entry into the service, they were currently in better health than they had been at time of separation. At time of separation, 81% regarded their health as poorer than at entry into service, 45% described their health as "much worse," and only 19% felt their health was the same or better. During the follow-up 5 years later, 71% described their health as poorer than at entry, 31% felt "much worse," and 29% reported their health as the same or better. Although their health had tended to improve, the vast majority of the subjects still did not regard themselves as being well at follow-up.

Occupational Adjustment

Examiners assessed occupational adjustment by focusing on the veteran's ability to handle his job, avoidance of interpersonal difficulties, attitudes toward his work (including security, pay, working conditions), and employer satisfaction with the veteran. Satisfactory occupational adjustment was exhibited by 67% of the subjects, while 7% had a questionable adjustment, and 26% had an impaired adjustment. At the time of examination, 76% of the subjects were employed full-time, 9% part-time, and 15% were unemployed. Illness was a factor in preventing full-time employment for 14% of the sample.

Economic Adjustment

A veteran was considered to have a satisfactory economic adjustment if he could support his family, and if any dissatisfaction with his income was within normal limits or neurotic in origin. Using these criteria, 74% of the subjects had made a satisfactory adjustment, 5% were questionable, and 21% were impaired.

Marital Adjustment

Only 15% of the subjects were still single at follow-up in comparison to 46% at separation and 62%

at entry into the service. Examiners reported finding less satisfactory adjustment in this area than in most others. Only 60% of married subjects were regarded as having satisfactory adjustment, 22% were questionable, and 18% were impaired.

Family Adjustment

Assessment of family adjustment was made on the basis of the subject's attitudes and behavior toward either his own wife and children, if any, or with his parental family. A veteran was considered to be impaired if he ran away from home before the end of adolescence, quarreled often with parents or siblings, refused to cooperate within the family in a normal fashion (contributing to its support), or was too dependent upon his family, unable to make independent decisions or to engage in normal activities outside the family. On this basis, 67% of veterans were adjusting satisfactorily, 21% were questionable, and 12% were impaired.

Community and General Social Adjustment

This area of adjustment refers to the boundaries of socially acceptable behavior and mores. Only 56% of the subjects were deemed to have adjusted satisfactorily, 25% were questionable, and 19% were impaired.

Psychiatric Disability

A veteran was considered psychiatrically disabled if his psychiatric symptomatology caused him to either lose time from work or prevented him from carrying out his role as a student or father. The degree of impairment or disability also involved how the veteran's adjustment in other areas such as family and community adjustment was affected. Disability in one or more minor areas of activity without work disruption was usually labeled as mild disability, while a moderate degree of disability usually affected work time or efficiency appreciably.

The results revealed that less than 30% of the veterans in the follow-up study were more than slightly disabled due to psychiatric symptoms, and only 8.1% were more than moderately disabled. Thus, while there was a great deal of psychiatric symptomatology present in these veterans, this symptomatology did not translate into disability.

In looking at changes in psychiatric conditions since discharge from the service, it was found that most veterans who were not psychiatrically disabled at discharge either remained the same or improved. Of those veterans who were disabled at discharge, 60% appeared to have improved, 24% remained the same, and 14% became worse.

Treatment Issues

At follow-up it was determined that 36% of the veterans in the study had sought some type of psychiatric or other treatment for relief of symptoms. When asked whether they felt the need for further psychiatric treatment, 56% of the veterans reported that they did not. Of the 40% who did express a need for further treatment (4% expressed no opinion), less than a third felt their need was great.

The basic conclusions of this large-scale follow-up study of World War II veterans are similar to those reported by Salmon and Fenton[1] on World War I veterans. Both studies revealed a marked tendency for significant improvement among psychiatrically troubled veterans 5 years since discharge from the service. Not only have their conditions improved, but their ability to function as contributing members rather than as burdens to society has also improved. This is not to imply that they have not been significantly affected by their war-related service. It merely means that for the majority of impaired veterans, their negative experiences have not served to prevent them from coping in a satisfactory fashion.

Ripley and Wolf[3] conducted a follow-up of 100 veterans who had been hospitalized with schizophrenia or schizophrenic-like reactions while participating in combat campaigns in New Guinea and the Philippines from 1943 to 1945. Follow-up data over a period of 5 to 8 years after hospitalization were gathered from records, questionnaires, and personal interviews. Many of these veterans had functioned in the military for long periods prior to their breakdown despite the presence of a high degree of psychopathologic symptomatology.

Upon evacuation to the United States, marked symptomatic improvement was noticed in one fifth of the patients. More than one third of the patients had been discharged after 2 months of hospitalization, and only four had not been released after more than a year. In comparing the prewar and postwar adjustment of these veterans, it was found that their general health, ability to function at work, family relationships, and social adaptation were all poorer.

Evidence was found for a gradual trend toward decreased disability, although several common symptoms persisted: vague somatic complaints, ir-

ritability, headaches, seclusiveness, insomnia, difficulty in concentration, dejection, excessive fantasy, suspiciousness, anxiety, restlessness, hallucinations, and resentment toward authority. Eleven patients had had further hospitalizations. Over one fifth of the veterans were severely disabled by these symptoms after 5 or more years. The most important factors in promoting a good readjustment were a warm, tolerant, helpful attitude on the part of a wife or other family member, satisfactory work situation, and success in school and social contacts.

Additional evidence concerning the long-term effects of war neuroses can be found in the report of a 5-year follow-up study by Futterman and Pumpian-Mindlin.[4] This study of 200 combat veterans seeking treatment at the Veterans Administration Mental Hygiene Clinic in Los Angeles provided evidence of fresh cases of traumatic war neuroses that had not previously sought treatment since the war. Common symptomatology among these veterans included: intense anxiety, recurrent combat-related dreams, startle reactions, depression, guilt, and a tendency to sudden, violent behavior. Secondary symptoms included a tendency to avoid people, fear of criticism, difficulty in making decisions, and various sleep disturbances.

Similar findings were reported by Archibald, Long, Miller, and Tuddenham[5] in their 15-year follow-up report on gross stress reactions resulting from combat during World War II. Questionnaire data were obtained from 57 combat veterans and 48 noncombat control subjects. The data indicated that the combat veterans were bothered by problems of tension, irritability, depression, diffuse anxiety symptoms, headaches, startle reactions, dizziness, blackouts, avoidance of activities similar to combat experience, internalization of feelings, insomnia, and nightmares. Eighty-two percent of the combat veterans reported that their psychological symptoms had interfered with their abilities to provide for their families.

Ponteva[6] conducted a follow-up study of Finnish soldiers who had been treated for psychiatric reasons during the war with Russia (1941–1944). Approximately 15,700 soldiers had been hospitalized for psychiatric causes. Subjects for the follow-up study were selected at random from these hospitalized veterans using records maintained at the War Casualties Archives. A control group was also picked at random from pneumonia patients because of the lack of correlation between pneumonia and psychiatric disorders.

Data were obtained from 373 patients and 372 controls. It was found that at the time of follow-up (1971) approximately 43% of the psychiatric patients and 23% of the controls were either partially or entirely unable to work. The two most important causes of disability for the patients were cardiovascular diseases and mental diseases. Ponteva concluded that the adaptation of wartime psychiatric patients to civil life after the war was very good in the subgroups of veterans suffering from neurotic and reactive disorders. The more severely disturbed veterans, however, were not as successful in their readjustment.

Long-term reactions to modern warfare are by no means limited to American or European veterans. Meguro[7] conducted a 20-year follow-up study of war neurosis cases discharged from the former Konodai Army Hospital in Japan between 1941 and 1945. Questionnaires and interviews were used to collect data from 104 Japanese veterans selected at random from the total population of 2,205 war neurosis patients. Results revealed that, of those who had developed war neuroses and were unable to adapt to military life, more than 56% were now considered medically healthy and socially adapted. Approximately 68% of the veterans reported that their war neurosis symptoms had, in the medical sense, been cured. Meguro noted, however, that about one sixth of this group was still jobless and single in their middle age and could not be considered socially adapted. Among those veterans who were found "cured" of their former principal symptoms, the data indicated that the whole group still tended to be more neurotic than a normal group.

KOREAN CONFLICT STUDIES

Little research has been conducted on the follow-up status of Korean conflict veterans. Archibald and Tuddenham[8] investigated the long-term effects of combat stress on veterans of the Korean conflict as part of a further follow-up on an earlier study of World War II veterans.[5] All subjects were seen as outpatients at the Oakland, California Veterans Administration (VA) mental hygiene clinic. Included in the study were 15 Korean conflict veterans showing evidence of combat fatigue and 17 Korean conflict noncombatants with various psychiatric diagnoses representative of the clinic population.

Archibald and Tuddenham were interested in assessing the existence of a poststress syndrome of restlessness, irritability, tension, headaches, sleep disturbance, overreactive startle reflex, feelings of isolation and distrust, sense of inadequacy, and restriction of social contacts and activities. Questionnaire data revealed that the combat-fatigued veterans showed a significantly higher incidence than the noncombat veterans of sweaty hands, dizziness, depression, irritability, combat dreams, restlessness, and difficulty in concentration and in memory. At time of sampling the combat-fatigued veterans had a higher incidence of every one of the symptoms than they did during combat.

On a rating of changes in health status, fewer combat-fatigued veterans reported improvement and more reported deterioration than did the noncombat veterans. Significant differences were also found between the combat fatigued veterans and noncombat veterans in response to noises of airplanes, sudden loud noises such as firecrackers, combat portrayals on television or in movies, and going through a highway tunnel. These results among Korean conflict veterans confirm the findings for similar groups of World War II veterans.

Thienes-Hontos, Watson, and Kucala[9] assessed the prevalence of stress symptomatology among a sample of 29 Korean veterans and 29 Vietnam veterans who had been hospitalized for psychiatric reasons at the St. Cloud, Minnesota VA medical center between 9 and 36 months after their military separation dates. Hospital files for these veterans were examined to determine the incidence of the following stress-related symptoms: recurrent dreams and recollections of a traumatic event, intrusive thoughts, constricted affect, feelings of estrangement from others, diminished interest in one or more significant activities, hyperalertness, sleep disturbance, survivor guilt, memory impairment, and trouble concentrating. Results indicated that constricted affect, memory impairment/trouble concentrating, and diminished interests were more commonly reported by Korean rather than Vietnam veterans. Recurrent dreams were more often reported by Vietnam rather than Korean veterans. Overall, nearly identical percentages of Korean (42.2%) and Vietnam (42.3%) veterans reported symptoms that were found to be stress-related.

VIETNAM CONFLICT STUDIES

The period since the end of U.S. involvement in Vietnam has witnessed an unparalleled amount of research interest in the readjustment of its veterans. The impetus for this interest stems largely from the myriad of controversies and mystiques that surround both the conduct of the war and the men who fought in it. Never before in the history of the United States has there been such an unpopular and divisive conflict as expressed by the antiwar demonstrations of the late 1960s. Perhaps more important was the way in which the public outcry against the war carried over to the men who fought in it. The veterans of Vietnam did not return to the victory parades of an adoring nation. Far too often they returned alone and afraid of the very society they had fought to protect. As with the diversity of opinions about the war itself, a dichotomy of opinions existed among researchers interested in the prevalence and severity of apparent stress reactions experienced by returning Vietnam veterans. Figley[10] delineated two diverse perspectives that emerged from the literature in the 1970s: *stress evaporation* and *residual stress*.

The stress evaporation perspective holds that the Vietnam veteran probably did suffer some psychological readjustment problems during and immediately after military service, but any problems disappeared since returning home. Representative studies of this perspective include those by Worthington,[11,12] and Borus.[13–16] These studies found no significant differences between veterans who served in Vietnam and those who did not on a wide range of psychosocial behaviors. These studies did not, however, always include control groups or assess for combat experience.

The residual stress perspective holds that the nature of the Vietnam combat experience is such that it has a significant impact on the veteran, making the transition back to civilian life difficult. Studies representative of this perspective include those by Wilson,[17] Strayer and Ellenhorn,[18] Haley,[19] and Figley and Southerly[20] which have documented significantly more problems of adjustment among Vietnam combat veterans than among noncombat Vietnam-era veterans.

There are two basic conclusions that can be drawn from these studies of the readjustment of Vietnam veterans in the 1970s. If one looks at Vietnam-era veterans as a group, there do not appear to be any significant differences in comparison to nonveterans

in most areas of interpersonal and intrapersonal adjustment.[11–16] However, if one controls for either service in Vietnam in general, or combat experience in particular, then there is considerable evidence that suggests that Vietnam combat veterans, when compared to Vietnam-era veterans or nonveterans, exhibit significantly more (*a*) negative general and specific orientations toward violence,[21] (*b*) psychological symptoms,[17,20,22] (*c*) indices of depression,[23] (*d*) political alienation,[4,24,25] and (*e*) adjustment problems.[10,17,18,20]

Research on Vietnam veterans in the 1980s witnessed a shift in emphasis brought about by the inclusion of the category of Post-Traumatic Stress Disorder (PTSD), both Acute and Chronic/Delayed, in the third edition of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III) in 1980.[26]

Briefly, PTSD is characterized by the development of common symptomatology following a psychologically traumatic event that is outside the range of normal human experience. The characteristic symptoms involve reexperiencing the traumatic event through intrusive memories, recurrent dreams, or "flashbacks" caused by environmental or ideational stimuli; numbing of responsiveness to or reduced involvement with the external world as evidenced by diminished interest in activities, feelings of detachment or estrangement, constricted affect; and a variety of autonomic, dysphoric, or cognitive symptoms such as exaggerated startle response, sleep disturbances, survivor guilt, difficulty concentrating, memory impairment, or avoidance of activities that arouse recollection of the traumatic event.

The inclusion of the category of PTSD in DSM-III has resulted in fewer studies whose purpose is to either document or refute the existence of readjustment problems among Vietnam veterans. More studies are attempting to determine how prevalent these problems are in the veteran population as well as their etiologies and appropriate treatment modalities.

One of the most comprehensive studies of the readjustment of Vietnam veterans is the five-volume report by the Center for Policy Research,[27] which examined educational and occupational adjustment, social and psychological problems, long-term stress reactions, and how veterans have dealt with their war experiences. The data for this project consist of in-depth interviews with over 1,400 Vietnam and Vietnam-era veterans from various parts of the country, both urban and rural.

The results of this study reveal that Vietnam veterans have not attained as high a degree of education as their peers and tend to hold jobs that are of lower levels than both Vietnam-era veterans (those who did not serve in Vietnam) and nonveterans. Unemployment is a particularly acute problem among black Vietnam veterans, while a greater proportion of whites have not fully utilized the educational opportunities available to them under the "GI Bill" (the Veterans Readjustment Benefits Act of 1966).

Combat was found to have a significant impact on the social and psychological adjustment of Vietnam veterans. Evidence was found documenting a direct, significant relationship between combat and current drug and alcohol use, arrests, medical problems, and stress-related symptoms. This latter relationship to stress-related symptoms seemed to be concentrated primarily among veterans who served in combat during and after 1968 when public opinion and support for the war became highly negative. Reactions to combat among Vietnam veterans also differed along racial lines. Increased combat exposure among white veterans was characterized by excessive alcohol use while among black veterans drug abuse was found more frequently.

An examination of long-term stress reactions among these Vietnam veterans revealed that differences in family stability and the amount and intensity of combat experiences interacted to affect veterans to different degrees. Supportive relationships with others were found to have a significant effect in reducing the incidence and severity of stress reactions for all veterans, regardless of amount of combat experience. For veterans residing in large cities, interaction with other Vietnam veterans was found to alleviate stress reactions, while veterans in smaller cities and rural areas tended to be helped by the presence of a highly supportive network of close friends.

Additional data reveal that Vietnam veterans have attempted to deal with their war experiences in different ways. Some veterans have tried to simply forget or block out the past; others cling to it tenaciously; while still others have attempted to work through their past experiences by reflection and dialogue with others. It appears, however, that the majority of Vietnam veterans interviewed in this study have not made substantial progress in resolving the conflicts and problems resulting from their war experiences. Many men still tend to avoid emotional conflicts, blame others for their problems, or have fallen victim to self-pity or self-flagellation.

Among the recommendations generated by this study to improve the readjustment of Vietnam vet-

erans are to extend the period of eligibility for "GI Bill" education and training benefits, develop training programs for chronically unemployed veterans, promote the use of fellow veterans as mental health counselors and therapists, and develop more expertise in understanding and treating psychosocial aftereffects of traumatic war experiences.

Recent estimates of the prevalence of stress reactions such as PTSD among the 2.8 million veterans who served in Vietnam range from 500,000[28] to 700,000[29] to as many as 1.5 million.[30,31] These figures indicate that anywhere from 18% to 54% of Vietnam veterans are currently experiencing symptoms of PTSD.

Additional information on the prevalence of PTSD in Vietnam veterans is contained in the summary of preliminary findings from the National Vietnam Veterans Readjustment Study (NVVRS).[32] This study was conducted under contract with the Veterans Administration (now the Department of Veterans Affairs) and mandated by Congressional legislation (Public Law 98-160). The study was designed to be the most rigorous and comprehensive examination to date of the prevalence of PTSD and other psychological problems in the readjustment to civilian life of Vietnam veterans. In-depth interviews averaging 3 to 5 hours were conducted with over 3,000 men and women representing three major groups of interest: Vietnam-theater veterans, Vietnam-era veterans, and nonveterans or civilian counterparts.

Among the many findings of this study are that the majority of Vietnam-theater veterans have successfully readjusted to civilian life and currently experience few symptoms of PTSD or other readjustment problems. Male Vietnam-theater veterans typically do not differ from Vietnam-era veterans on various indices of current life adjustment. Female Vietnam veterans, however, currently experience more readjustment problems than female Vietnam-era veterans matched for age and military occupation.

Employing multiple assessment procedures, the results indicate that 15.2% of all male Vietnam-theater veterans are currently experiencing symptoms of PTSD. Among female Vietnam-theater veterans, the current PTSD prevalence is estimated to be 8.5%. These rates are considerably higher than the rates for either Vietnam-era veterans (males = 2.5%, females = 1.1%) or civilian counterparts (males = 1.2%, females = 0.3%). These figures represent individuals with symptoms that qualify for a clinical diagnosis of PTSD. If one looks at those individuals who have clinically significant stress reaction symptoms that are insufficient to qualify as full PTSD, but still may require professional attention, an additional 11.1% of male and 7.8% of female Vietnam-theater veterans can be classified as currently experiencing "partial PTSD."

Additional analyses indicate that 30.6% of male and 26.9% of female Vietnam-theater veterans have had PTSD at some point in their lives. This means that of all the male and female Vietnam-theater veterans who have ever had PTSD, over one third of these males and over one fourth of these females still have PTSD today. Other findings reveal a strong relationship between PTSD and other postwar readjustment problems. Individuals with PTSD have a greater tendency to exhibit other specific psychiatric disorders and other postwar readjustment problems. This is particularly true among those Vietnam-theater veterans who have high levels of exposure to combat and other war zone stressors.

Significant differences were also found for minority group veterans. The current PTSD prevalence rate for PTSD is estimated to be 27.9% for Hispanic veterans, 20.6% for blacks, and 13.7% for whites. It is believed that the differences between blacks and whites can be explained by differing levels of exposure to war zone stress, but this does not explain the differences between Hispanics and either blacks or whites.

Overall, this study provides evidence that nearly 500,000 of the 3.14 million men and women who served in the Vietnam theater are currently suffering from PTSD and nearly 1,000,000 have had PTSD at some point in their lives.

Over the past several years this author has been conducting an epidemiologic study of the psychosocial adjustment of Vietnam and Vietnam-era veterans.[33–38] These studies represent a programmatic research effort into the assessment of the prevalence and severity of post-traumatic stress disorder as well as the factors involved in its etiology among Vietnam veterans.

The major hypothesis of this research is that the prevalence and severity of PTSD is affected by a combination of different factors that include combat/war zone experience, and social support system legitimization of experiences both during service in Vietnam and upon reentry (primarily the first year back). The importance of combat experience has already been demonstrated in the literature and in this review.

The importance of supportive relationships in reducing the incidence of stress reactions among Vietnam veterans has already been noted by the

Center for Policy Research.[27] It may be that stress reactions such as PTSD involve the failure of social support systems to promote the catharsis or abreaction of stressful combat experiences. Without validation or legitimization of these experiences, Vietnam veterans may be unable to cope successfully.

In addition to its epidemiologic orientation, the studies by Stretch differ from previous reports in that they examine populations of Vietnam veterans that have been largely ignored in the past. More specifically, these studies examine PTSD and factors involved in its development among Vietnam and Vietnam-era veterans still on active duty in the U.S. Army (including a subsample of nurses), U.S. Army Reservists, prior-service civilians, and more recently, Canadians who joined and served in the U.S. military in Vietnam.

The results of these ongoing studies indicate that not all Vietnam veterans are currently experiencing PTSD to the degree determined among the civilian veteran population. A questionnaire, the Vietnam-Era Veterans Adjustment Survey (VEVAS), was sent to all Vietnam and Vietnam-era veterans assigned to a moderate-sized U.S. Army post on the East Coast in the Spring of 1982. Data were gathered on attitudes and opinions about the war, combat experience, past and current psychosocial health problems, and social support experiences both during and after service in Vietnam. Using the DSM-III criteria for assessing PTSD, it was determined that 12 of the 238 Vietnam veterans (5.1%) are currently experiencing symptoms related to PTSD and 25 veterans (10.5%) report symptoms of PTSD that occurred during service in Vietnam.

VEVAS data were also collected from 667 Vietnam veterans assigned to U.S. Army Reserve troop units nationwide in the Spring of 1982. Results indicate that 73 of these randomly selected veterans (10.9%) report current symptoms of PTSD and 84 (12.4%) report having been bothered in Vietnam. Similar data were collected from 361 active duty Vietnam veteran nurses in the Spring of 1983. Again using DSM-III criteria, it was determined that 12 out of 361 Vietnam veteran nurses (3.3%) are currently suffering from PTSD and 33 nurses (9.1%) were bothered by symptoms of PTSD during Vietnam. Additional data were collected from 499 Vietnam veterans with no current military affiliation who were obtained at random from VA medical benefits files. Of these latter veterans, 160 (32.1%) were found to be currently suffering from PTSD and 127 (25.5%) report symptoms of PTSD during their service in Vietnam.

Another group of Vietnam veterans that has been ignored by other researchers until now, consists of the estimated 10,000 to 40,000 Canadians who enlisted in the U.S. military and served in Vietnam.[39] The study of PTSD among these Canadian Vietnam veterans is important for several reasons. One is the nature of their homecoming and subsequent readjustment experiences. While many Americans returned home to face rejection and hostility for their role in the war, Canadians found neither rejection nor recognition. No one knew they had been in Vietnam so they were ignored and isolated from other veterans. Because they served with the U.S. military, they were denied veteran status in Canada and are not eligible for any veterans benefits from the Canadian government. They are also not eligible to join veterans groups such as the Royal Canadian Legion and have been labeled "mercenaries" and "traitors." Among 164 Canadian Vietnam veterans who responded to a modified version of the VEVAS, 90 Canadians (55%) are currently experiencing symptoms of PTSD. A total of 83 veterans (51%) report experiencing symptoms of PTSD during their Vietnam service.

Table 18.1 presents the PTSD prevalence rates for these five different groups of Vietnam veterans. "Acute" PTSD refers to those veterans who reported experiencing PTSD during Vietnam service, but do not report symptoms at the present time. These rates range from a low of 6.6% for Reserve veterans to a high of 10.4% among Canadian Vietnam veterans. "Delayed" PTSD refers to veterans who did not report PTSD symptoms during Vietnam, but are currently bothered by PTSD. The delayed PTSD rates range from 1.4% among U.S. Army nurses to 14.8% among prior-service civilian veterans. "Chronic" PTSD is represented by those veterans who were bothered by symptoms of PTSD during their Vietnam service, and are still bothered by PTSD at the present time. Chronic PTSD rates vary from 1.9% for U.S. Army nurses to 40.2% for Canadian veterans. These mutually exclusive categories may be combined to yield an "Overall" PTSD rate representing the percentage of veterans who have experienced symptoms of PTSD at any time during or after service in Vietnam. As can be seen, the overall prevalence of PTSD ranges from 10.5% among U.S. Army Nurse Corps Vietnam veterans to 65.2% among Canadian Vietnam veterans.

The results of these studies suggest that factors other than combat affect the attenuation of PTSD. Social support, particularly during the first year back from Vietnam, was found to be just as predictive of current PTSD symptomatology as combat

TABLE 18-1

PREVALENCE OF POST-TRAUMATIC STRESS SYNDROME (PTSD) AMONG VIETNAM VETERANS

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experience. The data suggest that initially PTSD does result from traumatic combat/war zone experiences, but the veteran's ability to either successfully cope with or succumb to this disorder depends upon social support. Veterans in the studies who had received positive social support from friends and relatives reported fewer symptoms of PTSD than did veterans who reported encountering negative or hostile reactions from others upon return from Vietnam.

Active duty veterans had high levels of social support and low levels of PTSD. The significantly greater percentage of U.S. Army Reserve Vietnam veterans reporting symptoms of PTSD is likely to be the result of their having been exposed to more negative or hostile societal reactions to their service in Vietnam than their active duty counterparts. Vietnam veterans who remained on active duty were able to interact with fellow veterans in an affirming military culture on a daily basis. Being full-time members of the civilian community and only "part-time soldiers" provided reservists with fewer opportunities to work through their Vietnam experiences in a supportive nonjudgmental atmosphere. The Vietnam veteran subjects obtained from the VA severed their ties with the military early on and likely received less social support for their service than their active duty or reserve counterparts. They also have much greater rates of PTSD than these other groups.

The Canadian Vietnam veterans have the most serious PTSD prevalence rates of any group studied. This is surprising in that they cannot be accused of faking symptoms in order to gain compensation because their lack of legal status as "veterans" has made them ineligible for compensation. Based on data from questionnaires and corroborating evidence from veterans' letters and informal interviews, it is likely that this higher prevalence of PTSD is due to three reasons: (1) lack of social support and recognition from Canadian society and the government of Canada, (2) isolation from other Vietnam veterans in Canada, and (3) lack of availability of any medical or psychological readjustment counseling services in Canada.

The data also suggest that further research is needed to clarify what is meant by "combat experience." Few would disagree that combat is traumatic, but what exactly is it that is traumatic? This author's research also focused on nurses who served in Vietnam. Nurses are not normally considered to have experienced "combat." While they certainly differ from infantry troops in that they do not carry weapons or actively engage in firefights with enemy soldiers, they do share many common experiences. Nurses stationed in hospitals and field units in Vietnam were not always in safe, secure locations and were often subjected to enemy shelling.

More importantly, nurses were often exposed to the horrors and carnage of war on a daily basis. One does not have to fire a weapon or kill someone to become traumatized by war. Constant exposure to maimed, dying, and dead soldiers is certainly in itself traumatic. This was confirmed by Futterman and Pumpian-Mindlin[4] who reported that traumatic war neuroses were more common among certain groups of noncombatants such as medical first-aid men who were exposed to the violent effects and results of combat, but had not been active participants in combat.

The data demonstrate that duty in Vietnam by nurses was just as traumatic as combat duty for the other active duty and reserve Vietnam veterans. VEVAS data on PTSD symptoms exhibited during Vietnam duty reveal no significant differences among the number of nurses (9.1%), other active duty veterans (10.5%), and Reservists (12%) experiencing PTSD at that time.

SUMMARY AND CONCLUSION

This review of follow-up studies on the readjustment of veterans has demonstrated that while weaponry and tactics may change from war to war, the impact of war on its participants remains largely unchanged. Medical and psychiatric nomenclature of reactions to war experiences also change, but the reactions themselves are remarkably similar. Veterans of World War I suffered from "shell shock," World War II and Korean veterans suffered from "war neuroses," and Vietnam veterans suffer from "post-traumatic stress disorder."

These past studies demonstrate that the majority of veterans are able to make a satisfactory adjustment to civilian life. This does not mean that they emerged from war unscathed. It is unrealistic to expect someone to not be affected by the inhumanity and brutality of war. It is also unrealistic to assume that veterans cannot put these experiences into their proper perspective by acknowledging their impact and then using that perspective to continue on with their lives. Supportive relationships with others appears to be the key to successful readjustment for these veterans.

In many ways veterans of previous war eras may have had a better opportunity for successful readjustment than Vietnam veterans. Vietnam veterans did not return from their war en masse on transport ships which often took weeks to arrive in the States. They returned on jetliners as individuals denied the therapeutic opportunity to work through their war experiences with their fellow veterans. They also returned to a society that did not greet them as conquering heroes or even acknowledge the sacrifices they made.

For these reasons and others it appears that Vietnam veterans have been less successful than veterans of previous war eras in readjusting to civilian life. As society begins to realize that the veterans who served in Vietnam were not necessarily responsible for the mistakes made there, then many more Vietnam veterans will be able to put the past behind them and look to the future more confidently.

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