

Can we solve the mysteries of the National Vietnam Veterans Readjustment Study?☆

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Abstract

The National Vietnam Veterans Readjustment Study (NVVRS) researchers reported that 30.9% of all men who served in that conflict developed posttraumatic stress disorder (PTSD) even though only about 15% had been assigned to combat units. Scholars, mainly historians, have questioned the accuracy of the PTSD prevalence rate. The purpose of this article is to evaluate the merits of several hypotheses adduced to explain the high apparent PTSD prevalence in the NVVRS. Empirical and conceptual analysis suggests that malingering is unlikely to account for many cases. Also, deployment to Vietnam in the absence of exposure to classic traumatic stressors is likewise unlikely to account for many cases. There are three plausible explanations for the high prevalence rate of PTSD in the NVVRS. First, DSM-III-R PTSD criteria, used in the NVVRS, did not require that symptoms produce impairment. Accordingly, some PTSD-positive cases may actually have been leading productive lives, despite occasional nightmares, or other stress responses. Second, some men assigned to non-combat duty (e.g., medics) may have been exposed to PTSD-inducing stressors. Third, some respondents may have invoked the Vietnam-PTSD narrative to make sense of postwar psychological difficulties having diverse causes unrelated to their military service. These three factors likely contribute to the high PTSD prevalence rate in the NVVRS.

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As the American involvement in the war in Iraq enters its fourth year, speculation abounds regarding how many soldiers and Marines will develop posttraumatic stress disorder (PTSD; Friedman, 2004; McNally, 2004). Although cautious about making any firm predictions, Alfonso Batres, chief of the Department of Veterans Affairs (DVA) readjustment counseling services, did

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mention a figure of 30% in a media interview (Dentzer, 2003). This figure is based on findings from the National Vietnam Veterans Readjustment Study (NVVRS), the most influential epidemiologic study ever done on Vietnam veterans (Kulka et al., 1990). The researchers who conducted this Congressionally-mandated study reported that 30.9% of all men who had served in Vietnam developed PTSD, and an additional 22.5% developed partial PTSD – clinically significant symptoms that fell just short of diagnostic threshold (Kulka et al., 1990, p. 53). Hence, according to the NVVRS, 53.4% of all male Vietnam veterans had developed either full or partial PTSD. Moreover, approximately half of those men still had the disorder in the late 1980s when the study was conducted. The current prevalence rate – defined as a respondent having met full diagnostic criteria during the previous 6 months – was 15.2%, and an additional 11.1% had current partial PTSD. In other words, about 479,000 men still had full-blown PTSD in the late 1980s.

The NVVRS findings were shocking, and pointed to an apparent epidemic of chronic PTSD among Vietnam veterans. Indeed, as of early 1989, only 21,000 veterans had obtained disability compensation for PTSD, a figure that represented “only 4.3% of all potentially eligible veterans!” (Grady, 1990, p. 290). Although Congress had been poised to phase out the vet centers as the war receded from memory, the NVVRS resulted in an abrupt change in direction. Congress greatly expanded funding for outreach, treatment, and research on PTSD.

1. Critiques of the NVVRS

Most of us working in the field of PTSD endorsed the conclusions of the NVVRS.¹ In striking contrast to its acceptance in traumatology, the NVVRS has provoked considerable skepticism among historians and other scholars deeply familiar with the history of war-related psychiatric illness (e.g., Jones & Wessely, 2005, pp. 133–134; Marlowe, 2001, pp. 99–101; Shephard, 2001, p. 392; Young, 1995, pp. 129–135). These experts expressed several concerns about the NVVRS. First, the lifetime prevalence of 30.9% for PTSD seemed high, especially when other surveys had indicated that about 85% of Vietnam veterans returned to productive, reasonably well-adjusted lives after the war (Marlowe, 2001, p. 113).

Second, the current prevalence rate of PTSD in the NVVRS was about seven times higher than the corresponding rate in the Vietnam Experience Study (VES) Centers for Disease Control Vietnam Experience Study, 1988; 15.2% versus 2.2%). Endeavoring to make sense of this striking discrepancy, the NVVRS team conducted additional analyses that led them to conclude that the VES had drastically underestimated the true prevalence of PTSD (Kulka et al., 1988). Others, however, remain unconvinced by this argument (Young, 1995, pp. 129–135). As the preeminent historian of military psychiatry recently emphasized, “the real problem with the NVVRS” is that its equation of symptoms with genuine psychopathology winds up producing “numbers which in any other context are patently absurd” (B. Shephard, personal communication, February 20, 2006). Exemplifying one of these other contexts, the bombing of British civilians during World War II produced few stress-induced psychiatric victims (Jones, Woolven, Durodié, & Wessely, 2004). Accordingly, societal expectations regarding the likelihood of psychiatric breakdown may partly influence the apparent prevalence of stress-induced psychopathology.

¹ In the interest of full disclosure, I should mention that I was one of the clinicians who conducted psychiatric diagnostic interviews of NVVRS participants in Chicago, Cleveland, and Philadelphia.

Third, only about 15% of all male Vietnam veterans had served in combat units (Dean, 1997, p. 209; Marlowe, 2001, p. 73). Or, as Shephard (2001) observed, nearly a million individuals developed PTSD, “Yet, of those, only some 300,000 had actually been in combat” (p. 392). The fact that more than twice as many veterans developed PTSD as were in combat units seems puzzling.

Fourth, as Marlowe (2001) observed, “combat stress casualties were at their lowest for the years of the highest-intensity combat” (p. 85). In fact, only 3.5% of all psychiatric cases in Vietnam itself received a diagnosis of combat exhaustion (Marlowe, 2001, p. 86). This, Marlowe said, is “The central psychiatric conundrum of the Vietnam experience” (p. 85). As Marlowe pointed out, “Vietnam produced an extremely low proportion of proximate combat stress casualties and produced or is claimed to have produced massive numbers of postcombat casualties. Therefore, Vietnam breaks with the past normative pattern of combat and war zone stress casualty production” (p. 73).

The purpose of this article is to evaluate hypotheses adduced to explain the mysteries of the NVVRS. Gauging the validity of the NVVRS is not only important for estimating the need for services among Vietnam veterans, but also for estimating the likely need for services among those returning from the current war.

2. Why is the prevalence of PTSD so high in the NVVRS?

According to the received view in traumatology (e.g., Coleman, 2006; Lifton, 1973; Shay, 1994), the Vietnam war was especially traumatogenic because: (1) the war was unpopular, (2) leadership and morale were poor, (3) distinguishing between friend and foe was difficult in a guerrilla war without clear boundaries, (4) the military objectives were unclear, (5) atrocities were common, and (6) America lost. Any combination of these factors, if true, would presumably increase the prevalence of PTSD in studies, such as the NVVRS.

PTSD experts outside mainstream traumatology have proffered additional hypotheses to account for the epidemiologic data. Needless to say, these conjectures are not mutually exclusive, and it is likely that several may be partly correct.

2.1. *Simulated PTSD?*

Concerns about the accuracy of self-reported war trauma and resultant PTSD symptoms has been growing, at least since the publication of Burkett and Whitley’s (1998) award-winning book, *Stolen Valor* (McNally, 2005, 2006a). Using the Freedom of Information act to obtain the publicly accessible Official Military Personnel File (a.k.a., the DD-201 record) for approximately 2000 men who claimed war trauma in Vietnam, Burkett and Whitley (1998) reported that approximately 75% of those “receiving PTSD compensation are pretenders” (p. 279). That is, those reporting battle trauma had either not been in combat, had never served in Vietnam, or had never been in the military at all. Unfortunately, it is difficult to gauge the magnitude of this problem because Burkett and Whitley only investigated men for whom they already had grounds for suspicion. Accordingly, the 75% rate is almost certainly too high.

Prompted by Burkett and Whitley’s work, Frueh et al. (2005) obtained the DD-201 personnel files of 100 recent consecutive cases of men who reported war-related trauma during the Vietnam conflict. Of these patients, 94% had received a diagnosis of PTSD. Using these archival records, Frueh et al. corroborated combat exposure in only 41% of the cases. Another 20% had served in Vietnam, but the records failed to confirm the expected combat medals and were classified as

“unclear.” Another 32% had occupational roles (e.g., clerk) unrelated to combat duty. Finally, 7% had either not served in Vietnam or had never been in the military at all.

The Department of Veterans Affairs Office of the Inspector General (2005) conducted its own investigation of service-connected disability for PTSD. During the past several years, the DVA has witnessed a skyrocketing rate of delayed onset (or delayed presentation) PTSD related to the Vietnam era. Decades after exposure to trauma, these individuals sought clinical treatment as well as service-connected disability payments for their disorder. Studying PTSD cases whose service-connected disability rating for PTSD was at least 50%, the investigators concluded that 25.1% had no convincing evidence of trauma exposure in their clinical files and therefore should not have received the diagnosis nor received disability compensation. This rate of questionable PTSD cases ranged from a low of 11% of cases in Maine to a high of 40.7% in Oregon.

Is it possible that bogus reporting of trauma and PTSD symptoms explains the high prevalence of PTSD in the NVVRS? One of the NVVRS co-principal investigators addressed this issue (Schlenger, 2006). He compared what the respondent told the interviewer regarding where the respondent had served to information in the DD-201 files. Few cases were discrepant: only 1.2% of all Vietnam and era veterans combined. Seventeen era veterans falsely claimed to have served in Vietnam, and – curiously enough – 12 Vietnam veterans reported having served elsewhere.

Schlenger’s analysis only partly solves the problem. Although he was able to identify era veterans who claimed to have served in Vietnam, he was unable to determine whether a genuine Vietnam veteran had concocted a false trauma history. To rule out this possibility, Schlenger would have had to compare the self-reported traumatic events, disclosed to interviewers, with what the DD-201 file contained. Using this method, Frueh et al. (2005) found interesting discrepancies. For example, the proportion of participants reporting exposure to battlefield atrocities was more than twice as high among those whose DD-201 files did not contain evidence of combat (e.g., award of a Combat Infantryman’s Badge) than among those whose DD-201 files did contain such information (28 versus 12%). It is possible that a clerk at an airbase would have been exposed to a mortar attack, but extremely unlikely that he would have committed or witnessed battlefield atrocities. Because the DD-201 seldom contains a record of isolated traumatic events, the clerk who reported the airbase attack could very well be telling the truth. But a clerk who reported committing battlefield atrocities should provoke suspicion.

These caveats notwithstanding, fabrication of trauma histories does not alone seem to be a convincing explanation for the high PTSD prevalence in the NVVRS. The data were collected from an epidemiologic sample, not from a help-seeking or compensation-seeking sample. Moreover, the data were confidential, and the government had no access to what respondents told the interviewers. There was no financial motive to fabricate either trauma histories or PTSD symptoms in the NVVRS.

2.2. *Does deployment per se count as a trauma?*

Although only about 15% of men had a combat military occupational specialty (MOS) in Vietnam, perhaps merely serving in Vietnam in *any* capacity might be traumatizing. Might this account for the high rates of PTSD in the NVVRS study? Certainly deployment to a war zone can be a stressful experience that can foster hypervigilance, startle reactions, and so forth. But is it necessarily a *traumatically* stressful one capable of triggering PTSD?

The problem with viewing deployment per se as a qualifying stressor, as distinguished from the discrete traumas that may occur during deployment, is that it requires abandoning the rationale for the PTSD diagnosis. At the core of the PTSD diagnosis is the reexperiencing of a

traumatic event. Indeed, this is precisely what ties together the otherwise nonspecific symptoms of PTSD, many of which overlap with other disorders (Young, 2004).

Viewing deployment per se as a qualifying stressor is yet another instance of the *conceptual bracket creep* in the definition of trauma that threatens to undermine the credibility of the trauma field (McNally, 2003, 2006b). The original definition of trauma denoted a terrifying, life-threatening event falling outside the range of ordinary human experience as exemplified by combat, rape, or confinement to a concentration camp. But the concept of trauma has expanded so much that it now brackets noncanonical stressors, such as learning about the death of a loved one (Breslau & Kessler, 2001) to being exposed to obnoxious sexual jokes in the workplace (Avina & O'Donohue, 2002; McDonald, 2003) and giving birth to a healthy baby after an uncomplicated delivery (Olde, van der Hart, Kleber, & van Son, 2006). As Shephard (2004) has emphasized regarding the expanding concept of traumatic stressor:

Any unit of classification that simultaneously encompasses the experience of surviving Auschwitz and that of being told rude jokes at work must, by any reasonable lay standard, be a nonsense, a patent absurdity. (p. 57)

Some traumatologists, however, might regard conceptual bracket creep as a nonproblem. Merely because the range of allowable traumatic stressors has expanded does not mean that this will artifactually inflate the prevalence of PTSD. After all, a person deployed to a war zone, for example, must still meet symptomatic criteria to qualify for PTSD. And should we deny the diagnosis to individuals merely because their symptoms arose following exposure to a noncanonical stressor? Indeed, the concept of *psychic* trauma implies that it is the subjective meaning of the experience that ultimately determines whether it will be traumatic for the person.

Yet there are good reasons to worry about conceptual bracket creep. First, broadening the definition of trauma threatens to undercut our attempts to elucidate the psychobiological mechanisms mediating PTSD. A survivor of a fender bender is unlikely to have much in common with a survivor of the Holocaust. Second, the more we broaden the concept of traumatic stressor, the less credibly we can assign causal significance to the stressor itself, and the more we must emphasize the causal role of preexisting vulnerability factors. For those whose "PTSD" symptoms arose following exposure to a noncanonical stressor, the vulnerability factors assume central causal significance while the stressor itself recedes into the background, rendering the concept of *posttraumatic* stress disorder meaningless. Third, if anything can now count as a traumatic stressor, then the concept of trauma becomes an all-purpose idiom of distress, a trope for misfortune in contemporary life, and a rhetorical device for moral claims-making. Fourth, conceptual bracket creep medicalizes increasingly more of human experience while trivializing genuinely traumatic events. The expectation of mental breakdown, fostered by conceptual bracket creep, may inadvertently undermine resilience in the face of adversity.

2.3. Noncombatants exposed to trauma?

A more likely explanation for at least some of the PTSD cases in the NVVRS is that many men without a combat MOS were directly exposed to traumatic stressors. Medical corpsmen ("medics") were often in harm's way, exposed to grave danger as well as to the gruesome and often futile work of trying to save the lives of wounded infantrymen. Mortar attacks on airbases and other sites would have exposed other individuals without a combat MOS to trauma. Hence, traumatized cooks, clerks, mechanics, and truck drivers might have contributed to the high PTSD prevalence.

Shephard cautions that although these isolated events *can* trigger PTSD, they usually do not, especially among individuals trained to endure the rigors of a war zone (B. Shephard, personal communication, February 20, 2006). Nevertheless, this explanation almost certainly accounts for some of the PTSD cases in the NVVRS. To test this hypothesis, researchers would need to check how many of the PTSD-positive cases had non-combat MOSs, and to assess the credibility of the traumatic stressors described to the NVVRS interviewers. For example, a clerk exposed to a mortar attack at an airbase is far more credible than a cook who reported being a prisoner of war.

2.4. *Lack of Criterion F (impairment)?*

Combat is a life-transforming experience, and few people emerge unaffected by it. But not all psychological changes wrought by combat count as symptoms of disorder. For example, oral histories of veterans from the Pacific Theater in World War II often include reference to nightmares, startle reactions, and so forth among men whose later lives were productive and richly rewarding (O'Donnell, 2002).

The NVVRS researchers used DSM-III-R (American Psychiatric Association [APA], 1987) to diagnose PTSD. One major difference between the DSM-III-R and DSM-IV (APA, 1994) criteria for PTSD is that the former does not explicitly require that symptoms produce impairment.² Many NVVRS participants might have experienced PTSD-like symptoms without experiencing much impairment from them. Accordingly, these individuals would not have received a DSM-IV diagnosis of PTSD. Also, symptoms in the absence of impairment may explain why few veterans sought treatment relative to the large number diagnosed with PTSD in the NVVRS.

2.5. *Retrospective reappraisal?*

The Vietnam era is usually defined by the dates August 4, 1964 (Tonkin Gulf incident) and April 30, 1975 (fall of Saigon). The NVVRS interviews were conducted in the late 1980s, years after the war had ended.

There are two related ways in which the retrospective character of the NVVRS might have inflated the lifetime PTSD prevalence rate. First, current emotional distress distorts memories for previous stressors and symptoms (e.g., Schwarz, Kowalski, & McNally, 1993; Southwick, Morgan, Nicolaou, & Charney, 1997). Accordingly, current emotional distress arising from any source might have led some participants to remember having experienced more intense or more frequent symptoms in the past than they actually did experience.

Second, as research on adults reporting recovered memories of childhood sexual abuse has shown (Clancy & McNally, *in press*; McNally, Perlman, Ristuccia, & Clancy, 2006), individuals can impose a trauma narrative on their life, making sense of difficulties that may very well have had diverse causes, not only abuse. The PTSD narrative provides an explanatory, and sometimes exculpatory (Breslau, 2004; Lacoursiere, 1993), framework for making sense of one's life. Some cases of apparent PTSD in the NVVRS might have arisen from reappraisal of Vietnam experiences as the cause of later difficulties regardless of whether this was true.

² To be sure, the impairment criterion in psychiatry is a bit peculiar. Consider diseases elsewhere in medicine. Physicians routinely discover cancer in individuals who were unaware of their disease. Surely we would not decline to diagnose cancer even if it failed to produce impairment in the person's life. Of course, laboratory tests confirming a diagnosis are rare in psychiatry, and attempts to demarcate intense emotional distress from genuine disorder often rest on whether the distress produces impairment in the person's life.

As Marlowe (2001) observed, postwar factors can “create and intensify causes attributed to wartime happenings” (p. 110). Someone who had been exposed, for example, to an isolated mortar attack on an airbase might have shaken off the acute reactions very quickly. But years later, if this person was having psychological problems for whatever reason, he might attribute these problems to the mortar attack experienced years earlier. This reappraisal process, and the development of fictitious PTSD (Lacoursiere, 1993), would explain why the rate of in-combat stress reactions was so rare, yet delayed onset PTSD was so common.

3. Conclusions

Debate persists about the true prevalence of PTSD among those who served in the Vietnam war. The fact that the rate of PTSD in the NVVRS was approximately seven times higher than that in the VES is puzzling, and points to the possibility that the true prevalence may lie somewhere between these two extremes. Although some scholars have endeavored to explain why the rate in the VES was so low (Kulka et al., 1988), most scholars have tried to explain why the NVVRS rate was so high. The reasons for the high prevalence of PTSD in the NVVRS are likely diverse, but some hypotheses are more plausible than others. That is, some hypotheses are likely to account for more of the cases than others.

Outright malingering and deployment in the absence of Criterion A trauma exposure are unlikely to account for many of the PTSD-positive respondents in the NVVRS. Financial motives to malingering were absent in the NVVRS, and anyone who developed genuine PTSD in the absence of exposure to classic traumatic stressors almost certainly would have been burdened with many vulnerability factors, preexisting psychopathology, or both. Many of these highly vulnerable individuals would have been unlikely to have completed basic training in the first place. Indeed, the stressors associated with basic training itself would likely be more intense than some of the noncanonical stressors triggering (apparent?) PTSD in these individuals.

One factor likely contributing to the prevalence of PTSD is the number of individuals who did not have a combat MOS, but who were nevertheless exposed to horrific, life-threatening events (e.g., medics, ambushed truck drivers). Another likely explanation is that DSM-III-R did not require that symptoms of PTSD produce any impairment. Accordingly, individuals exposed to combat who experienced occasional nightmares, avoided reminders of the war, occasionally startled, and so forth might very well have qualified for PTSD despite living well-adjusted, productive lives. Had impairment been required, the prevalence of PTSD in the NVVRS would likely be lower than it was. Finally, some individuals experiencing psychological, interpersonal, and occupational problems might have attributed their difficulties to war-related events despite the true causes lying elsewhere. The Vietnam-PTSD narrative would be one way for some veterans to make sense of their lives since the war.

Solving the mysteries of the NVVRS is not merely a matter of satisfying one's historical curiosity. Understanding war-related PTSD from an epidemiologic perspective is vital for estimating the likely need for services among those traumatized by the war in Iraq – a conflict with no obvious end in sight.

4. An epilogue

Since I wrote this article, two independent reanalyses of the NVVRS have appeared. One showed that PTSD diagnostic criteria yield current (1990) prevalence rates that range from 2.9 to 15.5% depending on the narrowness or breadth of the criteria (Thompson, Gottesman, & Zalewski,

2006). In another study, researchers consulted archival data (e.g., DD-201 files) and other historical sources to corroborate reports of trauma exposure, and they ensured that symptoms were actually tied to Criterion A war events (Dohrenwend et al., 2006). Finally, they ensured that symptoms produced at least some impairment in the lives of the respondents before accepting the case as PTSD-positive. Confirming the suspicions of the critics of the NVVRS (McNally, 2006c), Dohrenwend et al. concluded that the original NVVRS lifetime and current prevalence rates for PTSD were about 40% too high. Nevertheless, they still emphasized that slightly over 9% of male Vietnam veterans still had PTSD as of 1990.

References

- American Psychiatric Association. (1987). *Diagnostic and statistical manual of mental disorders* (3rd ed., rev.). Washington, DC: Author.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.
- Avina, C., & O'Donohue, W. (2002). Sexual harassment and PTSD: Is sexual harassment diagnosable trauma? *Journal of Traumatic Stress, 15*, 69–75.
- Breslau, J. (2004). Cultures of trauma: Anthropological views of posttraumatic stress disorder in international health. *Culture, Medicine and Psychiatry, 28*, 113–126.
- Breslau, N., & Kessler, R. C. (2001). The stressor criterion in DSM-IV posttraumatic stress disorder: An empirical investigation. *Biological Psychiatry, 50*, 699–704.
- Burkett, B. G., & Whitley, G. (1998). *Stolen valor: How the Vietnam generation was robbed of its heroes and its history*. Dallas, TX: Verity Press.
- Centers for Disease Control Vietnam Experience Study. (1988). Health status of Vietnam veterans. I. Psychosocial characteristics. *Journal of the American Medical Association, 259*, 2701–2707.
- Clancy, S. A., McNally, R. J. (in press). Who needs repression? Normal memory processes can explain “forgetting” of childhood sexual abuse. *Scientific Review of Mental Health Practice*.
- Coleman, P. (2006). *Flashback: Posttraumatic stress disorder, suicide, and the lessons of war*. Boston, MA: Beacon Press.
- Dean, E. T., Jr. (1997). *Shook over hell: Post-traumatic stress, Vietnam, and the Civil War*. Cambridge, MA: Harvard University Press.
- Dentzer, S. (2003). [Interview with Alfonso Batres]. Online News Hour. http://www.pbs.org/newshour/bb/health/julydec03/batres_extended. Accessed May 3, 2006.
- Department of Veterans Affairs Office of Inspector General (2005). Review of state variances in VA Disability compensation payments (Report #05-00765-137. 2005 May 19). Available: <http://www.va.gov/foia/err/standard/requests/ig.html>. Accessed October 7, 2005.
- Dohrenwend, B. P., Turner, J. B., Turse, N. A., Adams, B. G., Koenen, K. C., & Marshall, R. (2006). The psychological risks of Vietnam for U.S. veterans: A revisit with new data and methods. *Science, 313*, 979–982.
- Friedman, M. J. (2004). Acknowledging the psychiatric cost of war. *New England Journal of Medicine, 351*, 75–77.
- Frueh, B. C., Elhai, J. D., Grubaugh, A. L., Monnier, J., Kashdan, T. B., Sauvageot, J. A., et al. (2005). Documented combat exposure of US veterans seeking treatment for combat-related post-traumatic stress disorder. *British Journal of Psychiatry, 186*, 467–472.
- Grady, D. A. (1990). Epilogue: A self-guide for Vietnam veterans. In: R. A. Kulka, W. E. Schlenger, J. A. Fairbank, R. L. Hough, B. K. Jordan, C. R. Marmar, & D. S. Weiss (Eds.), *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study*. New York: Brunner/Mazel.
- Jones, E., & Wessely, S. (2005). *Shell shock to PTSD: Military psychiatry from 1900 to the Gulf War*. Hove, UK: Psychology Press.
- Jones, E., Woolven, R., Durodié, B., & Wessely, S. (2004). Civilian morale during the Second World War: Responses to air raids re-examined. *Social History of Medicine, 17*, 463–479.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., et al. (1988). *National Vietnam Veterans Readjustment Study (NVVRS): Description, current status, and initial PTSD prevalence estimates*. Research Triangle Park, NC: Research Triangle Institute.
- Kulka, R. A., Schlenger, W. E., Fairbank, J. A., Hough, R. L., Jordan, B. K., Marmar, C. R., et al. (1990). *Trauma and the Vietnam War generation: Report of findings from the National Vietnam Veterans Readjustment Study*. New York: Brunner/Mazel.

- Lacoursiere, R. B. (1993). Diverse motives for fictitious post-traumatic stress disorder. *Journal of Traumatic Stress*, 6, 141–149.
- Lifton, R. J. (1973). *Home from the war: Vietnam veterans: Neither victims nor executioners*. New York: Touchstone.
- Marlowe, D. H. (2001). *Psychological and psychosocial consequences of combat and deployment with special emphasis on the Gulf War*. Santa Monica, CA: RAND.
- McDonald, J. J., Jr. (2003). Posttraumatic stress dishonesty. *Employee Relations Law Journal*, 28, 93–111.
- McNally, R. J. (2003). Progress and controversy in the study of posttraumatic stress disorder. *Annual Review of Psychology*, 54, 229–252.
- McNally, R. J. (2004). Revulsion to war isn't a mental disorder. *Los Angeles Times*, p. B11 [Op-Ed essay].
- McNally, R. J. (2005). Troubles in traumatology. *Canadian Journal of Psychiatry*, 50, 815–816.
- McNally, R. J. (2006a). Reply: Troubles in traumatology, and debunking myths about trauma and memory. *Canadian Journal of Psychiatry*, 51, 402–403 [Letter].
- McNally, R. J. (2006b). The expanding empire of posttraumatic stress disorder. *Medscape General Medicine*, 8(2), 9 [Editorial]. Available <http://www.medscape.com/viewarticle/528984>.
- McNally, R. J. (2006c). Psychiatric casualties of war. *Science*, 313, 923–924.
- McNally, R. J., Perlman, C. A., Ristuccia, C. S., & Clancy, S. A. (2006). Clinical characteristics of adults reporting repressed, recovered, or continuous memories of childhood sexual abuse. *Journal of Consulting and Clinical Psychology*, 74, 237–242.
- O'Donnell, P. K. (2002). *Into the rising sun: In their own words, World War II's Pacific veterans reveal the heart of combat*. New York: The Free Press.
- Olde, E., van der Hart, O., Kleber, R., & van Son, M. (2006). Posttraumatic stress disorder following childbirth: A review. *Clinical Psychology Review*, 26, 1–16.
- Schlenger, W. E. (2006). *NVRS misconceptions*. Unpublished manuscript.
- Schwarz, E. D., Kowalski, J. M., & McNally, R. J. (1993). Malignant memories: Posttraumatic changes in memory in adults after a school shooting. *Journal of Traumatic Stress*, 6, 95–103.
- Shay, J. (1994). *Achilles in Vietnam: Combat trauma and the undoing of character*. New York: Atheneum.
- Shephard, B. (2001). *A war of nerves: Soldiers and psychiatrists in the twentieth century*. Cambridge, MA: Harvard University Press.
- Shephard, B. (2004). Risk factors and PTSD: A historian's perspective. In: G. M. Rosen (Ed.), *Posttraumatic stress disorder: Issues and controversies* (pp. 39–61). Chichester, UK: Wiley.
- Southwick, S. M., Morgan, C. A., III, Nicolaou, A. L., & Charney, D. S. (1997). Consistency of memory for combat-related events in veterans of Operation Desert Storm. *American Journal of Psychiatry*, 154, 173–177.
- Thompson, W. W., Gottesman, I. I., & Zalewski, C. (2006). Reconciling disparate prevalence rates of PTSD in large samples of US male Vietnam veterans and their controls. *BMC Psychiatry*, 6, 19. Available online at: <http://www.biomedcentral.com/1471-244X/6/19> Accessed August 20, 2006.
- Young, A. (1995). *The harmony of illusions: Inventing post-traumatic stress disorder*. Princeton, NJ: Princeton University Press.
- Young, A. (2004). When traumatic memory was a problem: On the historical antecedents of PTSD. In: G. M. Rosen (Ed.), *Posttraumatic stress disorder: Issues and controversies* (pp. 127–146). Chichester, UK: Wiley.