Symptom Validity Test Performance in U.S. Veterans Referred for Evaluation of Mild TBI

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The current study examined Medical Symptom Validity Test (MSVT) performance in U.S. veterans referred for evaluation of mild traumatic brain injury (TBI) after scoring positive on the Veterans Health Administration (VHA) TBI screening measures. Fifty-eight percent of the sample scored below the MSVT cut scores on subtests more sensitive to effort than to neurological insult. There were no differences among those who did and those who did not pass the MSVT as a function of gender, age, education, ethnicity, previous posttraumatic stress disorder or substance use disorder diagnoses, or Personality Assessment Inventory validity scales designed to measure negative impression management. A higher number of those who were service connected and previously diagnosed with a depressive condition failed the measure at a higher rate than those who were not. These results are discussed in relation to the specific nature of VHA patient populations.

Key words: mild TBI, MSVT, Symptom Validity Testing

INTRODUCTION

The use of symptom validity testing (SVT) in neuropsychological evaluation has gained increasing acceptance in recent years in both medico-legal and clinical environments (Bush et al., 2005). While the majority of extant studies have focused on those pending compensation or litigation, recent work has emphasized the necessity of such measures in non-litigant and non-disability-seeking samples (Howe, Anderson, Kaufman, Sachs, & Loring, 2007). Existing studies have demonstrated failure of SVTs across multiple groups that are and are not pending litigation. For instance, Green (2007) reported that more than 30% of his sample of approximately 1,300 outpatients demonstrated inadequate effort as measured by the Word Memory Test (WMT; Green, 2003; Green, Allen, & Astner, 1996) and that those with mild head injury demonstrated substantially higher failure rates than those with severe head injury. Other authors have noted failure of SVTs in patients with fibromyalgia (Gervais, Green, Russell, Pieschl, & Allen, 2000; Gervais, Russell, Green, Ferrari, & Peischl, 2001), non-epileptic seizures (Drane et al., 2006; Williamson et al., 2003, 2004), soft tissue injuries (Richman et al., 2006), memory disorder clinic outpatients (Howe et al., 2007), adults with mild traumatic brain injury (TBI)/head injury (Carone, 2008), and university students undergoing attention-deficit hyperactivity disorder and learning disorder assessments (Sullivan, May, & Galbally, 2007).

Of importance, it has also been shown that effort can account for more variance in neuropsychological test scores than severity of neurological insult. Green, Rohling, Lees-Haley, and Allen (2001) reported greater...
suppression of neuropsychological test scores as a function of poor effort relative to severity of head injury in a sample of individuals seeking compensation. Green (2007) extended the 2001 data by including other neurological and psychiatric conditions and found similar results suggesting that neuropsychological test scores were progressively reduced to a degree corresponding to level of effort indicated by the WMT. Stevens, Friedel, Mehren, and Merten (2008) found that effort, as measured by the WMT and Medical Symptom Validity Test (MSVT), accounted for 35% of the variance in neuropsychological test performance. They stated that effort “dwarfed” the impact of brain injury on cognitive testing in their German sample of patients referred for workers’ compensation or personal injury litigation. Constantinou, Bauer, Aahendorf, Fisher, and McCaffrey (2005) reported in their sample of mild head injury cases that 47% of the variance in a neuropsychological test battery including the Halstead Reitan Battery (HRB) was explained by effort as measured by the Test of Memory Malingering. These findings in conjunction with the previously outlined reports of failed SVTs, even in patients without a clear incentive to appear impaired, argues strongly for the importance of quantitatively gauging effort during any neuropsychological assessment.

There are a range of choices for measures testing effort, most of which employ (at least in part) some variant of a forced-choice format in the recognition of verbal, numerical, or pictorial stimuli. Varying degrees of sensitivity to poor effort have been reported across the available SVTs (Bianchini, Mathias, & Greve, 2001; Gervais, Green, & Allen, 1999; Gervais, Rohling, Green, & Ford, 2004; Green, Berendt, Mandel, & Allen, 2000; Greve, Binder, & Bianchini, 2009). The MSVT is a computerized memory test that assesses a respondent’s verbal memory and effort based on his or her level and consistency of performance across multiple subtests. A variety of studies have demonstrated this measure’s high degree of sensitivity to the malingering of cognitive impairment (e.g., Green, 2003; Iverson, Green, & Gervais, 1999; Tan, Slick, Strauss, & Hultsch, 2002). The MSVT (Green, 2004) is a shortened and modified version of the WMT. It is a brief automated verbal memory screening test with embedded subtests of effort similar to the WMT. Numerous studies have demonstrated that the MSVT possesses adequate psychometric properties in discriminating between respondents making a full effort, those who are malingering or are offering suboptimal effort, and those with genuine memory impairment (Carone, 2008; Green, 2004; Howe et al., 2007; Merten, Green, Henry, Blaskewitz, & Brockhaus, 2005; Richman et al., 2006).

Since the outset of U.S. military involvement in Iraq and Afghanistan, brain injury has been regarded as one of the cardinal injuries of these conflicts with reports of 15% to 20% of deployed service members endorsing experiences associated with mild TBI (Hoge et al., 2008; Tanielian & Jaycox, 2008). In an effort to respond to the needs of veterans who served in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF), the U.S. Veterans Health Administration (VHA) has instituted a system of screening and evaluation that every veteran presenting for care who was deployed in support of OIF or OEF should complete (U.S. Department of Veterans Affairs, 2007). This system begins with a clinical reminder represented by a short screen consisting of four sequential sets of questions for possible brain injury. This initial screen can be administered at any health care appointment and co-occurs with a series of other screens for issues like depression, posttraumatic stress disorder (PTSD), military sexual trauma, infectious diseases, and alcohol misuse. If the veteran scores positively on this screen, he or she is contacted to complete a more detailed 22-item neurobehavioral inventory meant to further assess the occurrence and sequelae of any brain injury. Should the veteran score positively on this inventory, he or she is referred to either neurology or psychiatry for a physical examination. From this referral, depending on the physician’s findings, a series of additional consultations can be generated to include neuropsychology, physical therapy, occupational therapy, audiology, ophthalmology/optometry, etc. This TBI screening and referral procedure was instituted nationwide within the VHA system in the spring of 2007.

To date, one published study has examined SVT performance in U.S. military service members and veterans. Whitney, Shepard, Williams, Davis, and Adams (2009) administered the MSVT to a sample of 23 OIF/OEF combat veterans reporting mild TBI referred for neuropsychological testing within a PolyTrauma Network Site at a Veterans Affairs Medical Center. The sample was comprised of 9 individuals still enrolled in active duty service and 14 who had recently been discharged. The authors observed a 17% failure rate on the MSVT, with all of those failing still on active duty service. None of those who failed the MSVT demonstrated a genuine memory impairment profile, thus suggesting inadequate effort. Based on the results of other concurrently administered symptom validity measures, the MSVT had 100% specificity in identifying participants thought to be demonstrating symptom exaggeration. It should be noted that the Whitney et al. study was published while the current paper was under review, and as such, the data were not available during hypothesis formation.

The aim of the current study was to analyze data from the MSVT from veterans referred for neuropsychological assessment who screened positive on the
VHA TBI screens. It was hypothesized that veterans would demonstrate an SVT failure rate similar to that found in civil forensic settings of 30% to 40% (Larrabee, 2003; Mittenberg, Patton, Canyock, & Condit, 2002).

METHODS

Participants

Study participants were 45 veterans consecutively referred to the author for neuropsychological assessment between November 2007 and December 2008 after screening positive on the second-level VHA TBI screening outlined above. Participants resided in the catchment area of the VHA Pacific Island Health Care System, which includes the islands of Hawaii, Guam, and American Samoa. Given that the reported brain injuries occurred during combat operations, no objective data related to the occurrence or severity of these injuries (i.e., Glasgow Coma scale) were available. Participants were administered a flexible neuropsychological battery to assess potential cognitive impairment secondary to reports of possible mild TBI. The MSVT was a standard part of this battery. This retrospective analysis of clinical data was approved by the VHA Pacific Island Health Care System’s Institutional Review Board.

The average age of the sample was 35.1 years ($SD = 9.6$) with an average education of 13.2 years ($SD = 1.8$). All participants spoke English fluently and the testing was conducted in English. The majority of the sample was male (88.9%), and all participants were discharged from the military at the time of testing. Ethnicity breakdown was as follows: Pacific Islander (51.1%), Caucasian (22.2%), African American (15.6%), Asian (6.7%), and Hispanic (4.4%). There was a high rate of mental health comorbidities, with 91.1% being previously diagnosed with PTSD, 53.3% previously diagnosed with depression, and 13.3% previously diagnosed with a substance misuse disorder. The majority of the sample (82.2%) was service connected at the time of testing. Ethnicity breakdown was as follows: Pacific Islander (51.1%), Caucasian (22.2%), African American (15.6%), Asian (6.7%), and Hispanic (4.4%). There was a high rate of functional impairment (rated on a scale of 0% to 100%), the veteran is entitled to monthly monetary compensation. Of those service connected, 25 (67.6%) had a primary service connection for PTSD, 11 (29.7%) for various physical injuries, and 1 (2.7%) for depression. The vast majority of the sample (88.9%) reported potential brain injury due to blast exposure, with 6.7% reporting falls, 2.2% reporting motor vehicle accidents (MVAs), and 2.2% reporting electrical shock. Two patients (4.4%) reported both blast exposures and separate MVAs. Per self-report, all patients suffered at most a mild TBI (defined by the American Congress of Rehabilitation Medicine; 1993), as none reported loss of consciousness of more than 30 minutes or posttraumatic amnesia of 24 hours or more.

Measures

The MSVT is a brief automated verbal memory screening with several subtests designed to measure verbal memory and response consistency. Ten word pairs representing a single common object and which are easy to remember (e.g., ballpoint pen) are shown across two trials. Afterward, Immediate Recognition (IR) memory is tested. Following a short delay, Delayed Recognition (DR) memory is tested. A Paired-Associates (PA) trial is then administered in which the first word of each pair is given and the respondent is asked to recall the second word. The measure concludes with a Free Recall (FR) trial. In addition to these four subtests, a consistency (CNS) score is calculated to gauge recall consistency across select trials. At the end of the test the respondent is asked if he or she gave his or her best effort on the measure. The IR, DR, and CNS subtests are considered the initial measures of symptom validity and have been termed the “easy subtests.” Because of their difficulty relative to the easy subtests, the PA and FR subtests are referred to as the “hard subtests.”

A score of 85% correct or less on any of the easy subtests is considered a failure. Such a score on the IR or DR trials reflects performance at least two standard deviations below the mean for all consistently responding adults and children in the original normative data (Green, 2004), and suggests one of two explanations, one being poor or inadequate effort and the other being very severe impairment similar to that seen in dementia. In such cases, further analysis of the complete MSVT profile and presenting clinical factors is then recommended to determine if genuine memory impairment or poor/inadequate effort is more likely. When at least one easy subtest is failed, the mean of the easy subtests is subtracted from the mean of the hard subtests. The magnitude of this difference is high (i.e., $\geq 20$) in true impairment but low in simulators, and the examination of the easy-hard subtest difference has been found to discriminate adequately between those with and without genuine memory impairment (Howe & Loring, 2008). Further, order violations (i.e., superior performance on relatively difficult subtests compared with easier ones) have also been shown to differentiate patients with genuine memory impairment from those offering suboptimal effort (Chafetz, 2008; Green, 2003, 2004; Howe & Loring). There is a ceiling effect on the IR, DR, and CNS subtests, as indicated by nearly perfect
performance across a number of clinical groups, including children with borderline and extremely low IQ, outlined in the test’s manual (Green, 2004). Additionally, Carone (2008) demonstrated that children with moderate/severe brain damage/dysfunction resulting from a range of injuries that include TBI and stroke easily passed the MSVT.

The Personality Assessment Inventory (PAI; Morey, 1991) was also administered to a portion of the sample. The PAI is an actuarial measure of personality and emotional functioning that consists of 344 items answered on a 4-point Likert format that render 22 non-overlapping clinical scales. The psychometric properties of this measure have been well established (see for example, Kurtz & Blais, 2007; Morey, 2003).

Procedures

All patients were tested by the author or one of two pre-doctoral interns under the direct supervision of the author after they screened positive on both levels of the VHA TBI screening system outlined above. Patients were either assessed at a stand-alone appointment in an outpatient neuropsychology clinic or in conjunction with neurology and another psychologist evaluating comorbid mental health conditions as part of a round-robin TBI outpatient clinic. In the latter of these cases, the battery was conducted for screening purposes to determine if further neuropsychological testing would be warranted. PAI data came from patients seen in the stand-alone neuropsychology clinic. There were no clinical factors involved in appointment assignment; rather, determination of clinic was generally done by provider and patient availability. Prior to all evaluations, the patients gave consent for the assessment and were instructed to provide their best effort across the tests administered. The patients were never given any forewarning as to the types of SVTs employed or the order within test administration. The MSVT was generally administered among the first neuropsychological measures. The examiner remained in the room at all times throughout the evaluations. Data analyses were conducted with Statistical Package for the Social Sciences (SPSS) 16.0.

RESULTS

Table 1 outlines the descriptive statistics of MSVT subtest scores in patients who passed and failed the easy MSVT subtests. Approximately 58% (57.8%) were considered to have failed the measure with a score on IR, DR, or CNS at or below 85%. There were no differences between pass/failure rates based on the demographic variables of age, education, or gender (see Table 2). There was also no significant difference in failure rates based on ethnicity, \( \chi^2 = 4.56 \) (4), \( p = .34 \). Regarding mental health diagnoses, there was no difference as a function of PTSD or substance use disorder diagnosis; however, a higher number of individuals who were classified as depressed failed the measure. A higher number of individuals who were service connected also failed the measure. In the failing group, the average difference between the easy and hard subtests was 19.7. Order violations were noted in 16 of the patients who failed the MSVT (i.e., higher scores on relatively difficult tasks than on easier ones). The MSVT profiles in those failing the measure were thus more similar to individuals

<p>| TABLE 1 |
| MSVT Scores in 45 U.S. Veterans Referred for Neuropsychological Testing after Scoring Positive on VHA TBI Screens |</p>
<table>
<thead>
<tr>
<th>MSVT Scores</th>
<th>Median Scores %</th>
<th>Mean Scores in % Correct</th>
<th>Std. Dev.</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pass MSVT (N = 19)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR</td>
<td>100</td>
<td>99.0</td>
<td>2.7</td>
<td>90–100</td>
</tr>
<tr>
<td>DR</td>
<td>100</td>
<td>96.8</td>
<td>4.2</td>
<td>90–100</td>
</tr>
<tr>
<td>CNS</td>
<td>100</td>
<td>96.3</td>
<td>4.4</td>
<td>90–100</td>
</tr>
<tr>
<td>PA</td>
<td>100</td>
<td>94.7</td>
<td>11.7</td>
<td>60–100</td>
</tr>
<tr>
<td>FR</td>
<td>70</td>
<td>66.8</td>
<td>13.6</td>
<td>40–90</td>
</tr>
<tr>
<td>Easy Subtests</td>
<td>100</td>
<td>97.4</td>
<td>3.3</td>
<td>90–100</td>
</tr>
<tr>
<td>Hard Subtests</td>
<td>85</td>
<td>80.8</td>
<td>11.7</td>
<td>50–95</td>
</tr>
<tr>
<td>Fail MSVT (N = 26)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IR</td>
<td>77.5</td>
<td>75.0</td>
<td>13.6</td>
<td>45–100</td>
</tr>
<tr>
<td>DR</td>
<td>75</td>
<td>71.4</td>
<td>14.0</td>
<td>30–90</td>
</tr>
<tr>
<td>CNS</td>
<td>70</td>
<td>70.6</td>
<td>11.3</td>
<td>50–90</td>
</tr>
<tr>
<td>PA</td>
<td>60</td>
<td>59.2</td>
<td>21.3</td>
<td>10–100</td>
</tr>
<tr>
<td>FR</td>
<td>50</td>
<td>46.0</td>
<td>16.4</td>
<td>15–80</td>
</tr>
<tr>
<td>Easy Subtests</td>
<td>75</td>
<td>72.3</td>
<td>10.7</td>
<td>46.7–86.7</td>
</tr>
<tr>
<td>Hard Subtests</td>
<td>57.5</td>
<td>52.6</td>
<td>16.6</td>
<td>17.5–85.0</td>
</tr>
<tr>
<td>Easy-Hard Subtests</td>
<td>18.75</td>
<td>19.7</td>
<td>11.3</td>
<td>1.7–49.2</td>
</tr>
</tbody>
</table>

Note. Easy-Hard subtest differences in those passing MSVT were not reported as this statistic is only examined in individuals who fail the easy subtests (Green, 2004).
simulating impairment than to those with genuine memory deficits. In response to the final item of the MSVT asking if the patient gave his or her best effort, all members of the current sample stated that their best effort was given.

As shown in Table 3, there were no differences between patients who passed and failed the MSVT across the PAI validity scales designed to measure negative distortion (i.e., Negative Impression Management (NIM), Rogers Discriminant Function, or the Malingering Index). The average scores on the Malingering Index and Rogers Discriminant Function for both groups were below the cut scores outlined by Morey (1991, 2003). Individuals who failed the MSVT had an average NIM scale score in the moderate range, suggesting an element of exaggeration of complaints and problems. Those who passed the MSVT had a NIM score below the cut for impression management.

**DISCUSSION**

The MSVT recognition subtests are, in the vast majority of patient samples, more sensitive to effort than to ability. As outlined in the MSVT manual (Green, 2004) and validated in the subsequent literature, a number of impaired groups perform well above the cut scores for low effort. This includes children with intelligence in the mentally retarded range (average IR, DR, and CNS >95%) and patients with severe TBIs or other neurologic conditions (average of IR, DR, and CNS >97%). Carone (2008) demonstrated that children with moderate/severe brain damage/dysfunction from a range of injuries including strokes, moderate and severe TBI, and encephalitis easily passed the IR, DR, and CNS subtests of the MSVT with average scores above 96% on each subtest. The Carone study is particularly important because he compared his sample of moderately to severely damaged children to adults with mild TBI/head injury. He demonstrated that although the overwhelming majority of the children passed the MSVT effort subtests (5% failure rate), a much higher percentage of the adults with mild TBI (21%) failed the effort subtests. These data clearly indicate that the easy subtests of the MSVT are measures of effort rather than ability.

That being said, in a small minority of patient samples, some people will have genuine difficulty with the MSVT recognition subtests. However, these individuals invariably have clear evidence of dementia or other disease that would result in such a low degree of functioning that independent living would be considered unsafe. If the MSVT recognition subtests (i.e., IR, DR, or CNS) are failed, it is possible that either a) the respondent has dementia or a commensurate condition, or b) the respondent is not giving adequate effort or is purposely attempting to appear impaired.

In the current sample of U.S. veterans referred for neuropsychological evaluation after scoring positive on the VHA TBI screens, 58% of those tested failed the SVT. All of these patients were living independently and successfully transported themselves to their appointments (many of whom navigated inter-island travel in the Pacific), and most maintained employment. Consequently, there is no collateral information to

**TABLE 3**

<table>
<thead>
<tr>
<th>PAI Scale</th>
<th>Pass MSVT</th>
<th>Fail MSVT</th>
<th>t-test (df)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIM</td>
<td>70.7 (25.2)</td>
<td>79.7 (20.2)</td>
<td>0.9 (20)</td>
<td>ns</td>
</tr>
<tr>
<td>Rogers Discriminant Function</td>
<td>51.6 (15.5)</td>
<td>52.9 (9.7)</td>
<td>0.3 (20)</td>
<td>ns</td>
</tr>
<tr>
<td>Malingering Index</td>
<td>61.8 (17.0)</td>
<td>70.8 (22.7)</td>
<td>1.1 (20)</td>
<td>ns</td>
</tr>
</tbody>
</table>

Note. NIM = Negative Impression Management.
suggest that their scores could be reasonably explained by neurological impairment. Moreover, of those failing, the average profile more closely matched those from simulators than individuals with genuine memory impairment. A high number of order violations that are uncharacteristic of any known neurological condition (i.e., scoring higher on harder tasks than on easy ones). More specifically, individuals with genuine memory impairment secondary to dementia or a similarly impairing condition have a much more difficult time with the two hard subtests (i.e., FR and PA) than with the three easy subtests (i.e., IR, DR, and CNS). Based on data from individuals with dementia and known simulators, it has been determined that, when the MSVT is failed, the mean of the easy subtests is expected to be at least 20 points higher than the mean of the harder subtests if genuine memory impairment is to be considered a plausible explanation for such failure (Green, 2004). In the current sample, the difference between the means of the easy and hard subtests was not greater than 20, thus suggesting that MSVT failure was not secondary to genuine memory impairment.

It is notable that the MSVT profiles of the U.S. veterans who failed the measure are nearly identical to data gathered by two other studies examining British and Canadian samples making compensation claims for either psychiatric conditions or soft tissue damage, respectively (see Figure 1 [Gill, Green, Flaro, & Pucci, 2007; Richman et al., 2006]). For the sake of comparison and to further elucidate the relative ease of the MSVT subtests, the mean scores of Carone’s 2008 sample of children with moderate/severe brain damage/dysfunction and developmental disabilities are also shown in Figure 1. It is of further note that analogous to the current sample, the combat veterans who failed the MSVT in the Whitney et al. (2009) study did not demonstrate a MSVT profile consistent with genuine memory impairment.

The current study hypothesis was not supported in that failure rates in the current sample surpassed reports of base rate SVT failures of 30% to 40% in civil forensic settings (Larrabee, 2003; Mittenberg et al., 2002). The rate was more similar to the 54% failure rate evident in criminal forensic settings (Ardolf, Denney, & Houston, 2007).

Of interest in the current study, there were no absolute differences between patients who passed and failed the MSVT on the PAI scales employed to measure exaggeration of psychological symptoms (i.e., NIM scale, Malingering Index, Roger Discriminant Function). This parallels the findings of Demakis, Gervais, and Rohling (2008) who found that failure on cognitive SVT was not associated with failure of psychological SVT and vice versa. However, while the two groups did not differ when compared with each other, the MSVT failure group surpassed the cut score for the NIM scale, demonstrating a moderate elevation in relation to the MSVT passing group who fell below the cut score. This could be taken to suggest that there may be some degree of psychological exaggeration for those who failed the MSVT. However, it is of note that the constellation of the three NIM scales was not indicative of malingering. Future research should continue to examine this relationship between scales of psychological and cognitive symptom exaggeration.

Because the literature speaks robustly to the assertion that the quality of MSVT failure demonstrated in the current sample is not secondary to neurological factors, the question of why so many patients failed the measure surfaces. The current sample is composed of an ethnically diverse group; however, there were no significant differences between groups on MSVT failure, and consequently cultural factors do not appear a readily acceptable answer. There was also no difference in failure rates as a function of any other demographic variables or clinical diagnoses of PTSD or a substance use disorder. It is noted that a significantly higher number of individuals with a diagnosis of a depressive disorder failed the MSVT. However, all patients in the current sample were seen on an outpatient basis, and none had clinical pathology severe enough to necessitate psychiatric hospitalization. As such, one can reason that the depression would not render them as functionally impaired as other clinical groups that have been demonstrated to pass the measure. Additionally, the previous depressive diagnosis was probably based solely on self-report data, and as demonstrated by the moderately elevated PAI NIM scale scores, the group that failed the MSVT might be prone to psychological symptom exaggeration.

As others have noted, the potential for financial gain in the VHA system is omnipresent (Gold & Frueh, 1999). While none of the assessments in the current sample were conducted as part of the Compensation and Pension (C&P) examination used to aid in establishing a veteran’s service connection status, the VHA...
system allows veterans the opportunity to make service connection claims at any time. As such, it could be argued that external incentive to appear more compromised than one might objectively be is potentially ubiquitous in this system. Indeed, during the C&P evaluation (which is completed as an independent assessment most often by a provider uninvolved in the veteran’s regular clinical care), the examiners take into account the previous medical history of the veteran claiming a service-connected injury. Consequently, dividing this population into groups that have and do not have a clear external incentive to appear cognitively compromised may be an impossible task. It can be argued that this is also the case in those who are already fully service connected, as VHA conducts review C&P exams on a scheduled basis where the degree (or percentage) of service connection can be altered. Of potential interest, the current data demonstrate that relative to those without any service-connected conditions at the time of testing, veterans with an existing service connection failed the symptom validity measure at a higher rate.

The author is not asserting that all of those in the current sample who failed the SVT should have been diagnosed with malingering. Such a statement would be beyond the scope of this paper and arguably beyond the data collected. Iverson (2006) and Carone (2008) each assert that one cannot equate poor effort to malingering and that there are many reasons for poor effort outside of malingering; however, the two may occur simultaneously. Carone has called for future research to help better define the impact of coping, apathy, and comorbid diagnoses in their potentially causal role in SVT failure. Opinions may differ as to whether or not one gives the diagnosis of malingering for individuals who fail effort measures and may have an external incentive to appear impaired; however, at the very least, it should be agreed that the neuropsychological data derived from such assessments are invalid and not reliable estimates of current neurocognitive functioning.

It is acknowledged that the failure rate in the current study is notably elevated relative to the Whitney et al. (2009) sample, but it is in line with the Freeman, Powell, and Kimbrell (2008) study examining psychological symptom exaggeration in a veteran sample. These researchers demonstrated that 53% of their Vietnam veteran sample evidenced clear symptom exaggeration on the Structured Interview of Reported Symptoms. As noted above, while it has been demonstrated that psychological and cognitive symptom exaggeration can be thought of as distinct constructs, the Freeman et al. study provides another line of investigation into response bias in the veteran population. Future research should endeavor to further extend both lines of inquiry.

Evaluating the presence and sequelae of potential mild TBI in OIF/OEF veterans within the VHA is a complicated task, hampered in large part by the relative dearth of collateral medical or informant information. With this patient population, the potential mild TBI probably occurred while in the combat theatre and, as such, there is often limited (if any) collateral data to inform the diagnosis. Patient self-report (obtained in most cases months or years after the incident) is then among the few sources of information and is often the only source. Given a VHA system that allows veterans to make a service-connected claim at any time, which can result in financial entitlements, one could argue there is always the potential for secondary gain during medical evaluations done within the VHA (even those completed outside of a C&P claim). It has been argued that SVT in a clinical context devoid of obvious reasons to perform poorly can be prohibited by an unbalanced cost-benefit relationship. The current findings demonstrated an SVT failure rate of 58% and would seem to cogently suggest that in the VHA setting, SVT is of notable importance during neuropsychological evaluations even outside of a C&P evaluation. The goal of such testing of course is not to be peripherally involved in the denial or approval of any service-connected conditions but rather to assert with confidence that the neuropsychological data gathered on assessment can be taken as valid and reliable estimates of the veteran’s neurocognitive status. In addition to the potential impact of future C&P benefits that may be of questionable validity, a false-positive diagnosis of neuropsychological impairment could have detrimental effects on a veteran’s adjustment to the work force after separating from the military, as well as the misallocation of health care resources. Effort testing can substantially aid in the reduction of such diagnostic errors.

REFERENCES


