Pergamon

Archives of Clinical Neuropsychology, Vol. 15, No. 5, pp. 415–424, 2000

0887-6177/00 $–see front matter

PII S0887-6177(99)00033-5

The Effects of Coaching on the Sensitivity and Specificity of Malingering Measures

Julie A. Suhr and John Gunstad

Ohio University

This study sought to identify patterns of performance indicative of malingering on the Auditory Verbal Learning Test (AVLT). Participants were randomly assigned to perform normally, simulate head injury, or simulate head injury with warning that there might be attempts to detect malingering. Participants completed an expanded AVLT and a forced-choice task, in addition to several other memory tests. The warned simulators performed worse than normals on the forced-choice task, but better than those simulating head injury without a warning, suggesting that the warned subjects recognized forced choice as a malingering test. A combination of AVLT indices was able to predict group status for both naïve and warned malingerers (73.6% for naïve malingerers, 84.8% for warned, no false positives). The forced-choice measure detected only 31.6% of the naïve malingerers when specificity was maximized, and detected only 6.5% of the warned malingerers, a significant drop in detection rate. Findings suggest that pattern of performance indices are useful in detecting malingering, even when subjects are aware of attempts to detect malingering. © 2000 National Academy of Neuropsychology. Published by Elsevier Science Ltd

Keywords: head injury, malingering detection

Memory impairment is a common and well-known symptom of brain injury. Eighty-two percent of the general public are aware that a concussion can result in memory impairment (Gouvier, Prestholdt, & Warner, 1988). Further, memory impairment is not specific to head injury. Claims of memory impairment are common among those with neurological injury, but are also common among those feigning neurological injury, personal injury litigation, and other nonneurological patients (Brandt, 1988). In particular, individuals who attempt to malinger head trauma symptoms often report a variety of memory problems (Mittenberg, Azrin, Millsaps, & Heilbronner, 1993) and perform poorly on memory tests. Thus, in any clinical situation, it is important for neuropsychologists to estimate the likelihood of non-brain injury factors (such as poor motivation or lack of effort) affecting cognitive performance.

A widely used approach to detection of dissimulation is the symptom validity technique, in which each item has a 50% probability of obtaining a correct response without

We thank three anonymous reviewers for their helpful suggestions on an earlier version of this manuscript.

Address correspondence to Julie A. Suhr, Department of Psychology, Porter Hall, Ohio University, Athens, OH 45701.

any knowledge of the correct response. In theory, given enough items, a person scoring below chance is most likely malingering. A popular version of this technique is the Portland Digit Recognition Test (PDRT; Binder, 1993; Binder & Willis, 1991). Studies using the PDRT have demonstrated that brain-damaged individuals get about 78–85% correct, while malingerers average about 56–76% correct (Binder, 1993; Binder & Willis, 1991; Greiffenstein, Baker, & Gola, 1994; Rose, Hall, & Szalda-Petree, 1998).

However, there are some drawbacks to this technique. An effective forced-choice procedure must not only look difficult, but must have numerous items, making the test monotonous and time-consuming. A person who realizes that the task is easy may then become annoyed with the lengthy task, stop attending, and perform poorly (Lezak, 1995). On the other hand, a distressed or depressed person may become overwhelmed by the lengthy and seemingly difficult task and perform poorly. Thus, poor performance may not reflect conscious malingering, but other factors as well. A further limitation is that the task requires that the participant believe it is a difficult task. To the extent that the malingerer does not realize that the task is quite easy, he or she will perform more poorly than those with true brain injury. However, a well-informed or coached patient may recognize the attempt at malingering detection and not perform poorly on the task. In this context, it is important to note that 47–48% of layers believe they should provide specific information about psychological tests to their clients, including information about validity measures (Wetter & Corrigan, 1995).

Is it possible to detect malingering without adding length to an already lengthy neuropsychological evaluation? Early approaches to the assessment of malingering focused on the use of standardized neuropsychological measures. It is well-known that confirmed and suspected malingerers tend to perform worse on standard attention and memory tests than do normal controls and individuals with brain damage (Hayward, Hall, Hunt, & Zubrick, 1987; Heaton, Smith, Lehman, & Vogt, 1978; Iverson & Franzen, 1996; Mittenberg et al., 1993). However, some studies have demonstrated that malingerers cannot always be distinguished from those with actual brain injuries using the cutoffs of standard tests (Goebel, 1983; Leininger, Gramling, Farrell, Kreutzer, & Peck, 1990). While cutoff scores for standardized tests can be generated to distinguish malingered performance from normal effort, it is more difficult to find cutoff scores that give adequate sensitivity to malingering, while remaining specific to malingering (i.e., not accidentally labeling those with true brain injury as malingerers).

However, it may be possible to develop more complex indicators within existing neuropsychological instruments. For example, researchers have detected particular patterns of performance within and among neuropsychological tasks that are able to discriminate malingerers from those with true neurologic damage (Barrash, Suhr, & Manzel, 1998; Bernard, 1991; Bernard, Houston, & Natoli, 1993; Mittenberg, Rothold, Russell, & Heilbronner, 1996; Suhr, Tranel, Wefel, & Barrash, 1997). For example, while it may be relatively easy to lower the number of words one recalls on a memory test below a certain level, faking a convincing *pattern* of impaired test performance may prove more difficult. Furthermore, it would be more difficult for a sophisticated or coached malingerer to keep track of and alter patterns of cognitive performance in a way that is believable. For these reasons, indices based on patterns of performance may be less vulnerable to the effects of coaching.

Bernard (1991) demonstrated that malingerers do not demonstrate the serial position effect seen on list learning tasks (those with normal memory, closed head injury, and dementia remember items better from the beginning and end of a list relative to those in the middle) (Bigler, Rozca, Schutz, & Hall, 1989). Undergraduates asked to malinger on a word list did not show the serial position effect, and appeared to suppress recall of words from the beginning of the list. This serial position effect was not replicated in a