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Detection of simulated ADHD and reading disorder using symptom validity measures

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Abstract

Previous studies have typically focused on the ability of cognitive symptom validity tests to identify cognitive symptom exaggeration in the context of head injury or memory loss. Few published studies have examined the detection of simulated attention-deficit/hyperactivity disorder (ADHD) or reading disorder (RD). The present study examined the accuracy of symptom validity measures in the detection of simulated ADHD and RD. Results indicated that several commonly used symptom validity measures show good validity for detecting simulated ADHD and RD. Total Validity Indicator Profile (VIP) scores and hard item accuracy score from the Victoria Symptom Validity Test (VSVT) were the most accurate at distinguishing simulation of ADHD and RD from adequate effort. Percentages of control participants and participants in simulation conditions scoring below a specified cut score are provided to give clinicians an estimate of the simulator (true) positive and control (false) positive rates.

Keywords: ADHD; Reading disorder; Validity Indicator Profile; Victoria Symptom Validity Test; Rey Memory Test; Cognitive symptom exaggeration; Poor effort

Attention-deficit/hyperactivity disorder (ADHD) and reading disorder (RD) are common conditions that significantly influence academic achievement, even in higher education (Dykman & Ackerman, 1991; Frazier, Demaree, & Youngstrom, 2004; Frazier, Youngstrom, Glutting, & Watkins, 2007). Some universities, recognizing these problems, have developed specific learning programs and standard classroom accommodations for individuals with clinically documented attention or reading problems. However, across all education levels, resources for providing special services and accommodations are limited. Thus, it is important to accurately identify individuals with true attention and reading deficits. This need for accurate identification raises two clinical issues: (1) detecting previously undiagnosed individuals with subtle attention or reading problems and (2) identifying individuals without true attention or reading problems who exaggerate symptoms to receive the benefits afforded those who receive the diagnosis. The present paper

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addresses the second issue by examining the ability of common symptom validity tests (SVTs) to accurately identify individuals feigning ADHD or RD.

Some students seek the ADHD diagnosis for illicit or unintended use of medication (Conti, 2004; Harrison, Edwards, & Parker, 2007) or additional accommodations that they believe will make school easier for them and potentially improve their grades (Harrison et al., 2007). Individuals may be tempted to simulate RD when faced with the prospect of failure in school, potentially not being provided accommodations received at lower education levels, or when faced with increasingly demanding reading loads and coursework in the college environment. For example, the first author (T.W.F.) evaluated a student who presented with reading difficulties. This student had received extensive reading accommodations in junior high and high school and was requesting accommodations in college. The student's pattern of results on traditional neuropsychological and verbally oriented symptom validity measures was both extremely poor and highly unlikely. When confronted with this information, the student acknowledged simulating poor performance to gain future accommodations. The observation of individuals simulating ADHD or RD for personal gain is supported by data from Sullivan, May, and Galbally (2007). These researchers found that 47.6% of individuals seeking a diagnosis of ADHD and 15.4% seeking a diagnosis of RD showed sub-optimal effort on at least one symptom validity measure. Efforts to identify measures that are sensitive to simulation of these conditions are needed.

Unfortunately, the vast majority of research on cognitive symptom exaggeration has been done in the context of head injury and/or litigation (for recent reviews see Bianchini, Mathias, & Greve, 2001; Iverson, 2006). There is good evidence that cognitive symptom exaggeration occurs outside of litigation (Suhr, 2003). Furthermore, while some individuals show a broad pattern of symptom exaggeration (Frazier, Youngstrom, Naugle, Haggerty, & Busch, 2007), in most cases symptom exaggeration is specific to the type of symptoms or condition being simulated (Greiffenstein, Gola, & Baker, 1995; Slick, Hopp, Strauss, & Spellacy, 1996; Tan, Slick, Strauss, & Hultsch, 2002). Most SVTs were developed to detect malingered memory impairment. The ability of these measures to detect other forms of cognitive symptom exaggeration is uncertain. This is particularly true for ADHD and RD where very little research has been performed to examine the ability of SVTs to detect simulated attention and reading problems.

Two previous studies have examined simulated ADHD and RD. Osmon, Plambeck, Klein, and Mano (2006) found that the Word Reading Test was more sensitive than the Word Memory Test in detecting simulated reading difficulties. This study indicates that SVTs may be sensitive to simulated RD, and that measures that appear more related to RD may be most sensitive. The present study extends this work by examining the sensitivity of other frequently used symptom validity measures.

Quinn (2003) examined the Integrated Auditory and Visual Continuous Performance Test (IVA CPT) to detect simulated ADHD in adults. This study found the full scale attention quotient to robustly discriminate between non-ADHD controls and individuals instructed to feign ADHD (Cohen's $d = 4.00$, $p < .001$) as well as individuals clinically diagnosed with ADHD and the feigning group (Cohen's $d = 1.87$, $p < .001$). However, there was also a large and significant difference between the ADHD and non-ADHD control groups on this scale (Cohen's $d = 1.08$, $p < .001$). This large difference between ADHD and non-ADHD controls, as well as the large standard deviations of the ADHD control group (S.D. = 30.1) and the feigning group (S.D. = 21.3), limits the utility of this measure in detecting the simulation of ADHD. In order to address this limitation, the present study focuses on the detection of simulation using symptom validity measures designed to be much less sensitive to actual cognitive impairments.

The primary purposes of the present study were to (1) determine whether measures of cognitive symptom exaggeration would identify simulated ADHD and RD and (2) compare the estimated classification accuracy of different measures of cognitive symptom exaggeration in the detection of simulated ADHD and RD.

1. Method

1.1. Participants and randomization

Ninety-eight undergraduate introductory psychology students ($M_{age} = 18.5$, S.D. = 0.89, 63.3% female) from two mid-western universities[1] were included in this study. Students received course credit for their par-

[1] Participants from the two different sites were combined into one sample after preliminary analyses revealed no significant site differences or cross-site interactions in terms of demographic factors or test performance.