Chapter 18
Somatoform Disorders, Factitious Disorder, and Malingering

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Abstract Somatoform Disorders, Factitious Disorders and Malingering are among the most difficult issues for clinical neuropsychologists to differentiate. This chapter reviews diagnostic criteria for these disorders and emphasizes the differentiating characteristics among these disorders. The chapter reviews the current literature relating to applying Neuropsychological evaluation to assist in differential diagnosis of these disorders. The chapter also discuss the course, treatment and outcome of these disorders.

Key Points and Chapter Summary

- Somatoform disorders are relatively rare in the general population (1–3%); however, estimates of their prevalence in medical populations are much higher and have been reported to approach 20–30% in some neurologic practices.
- Differentiation of Somatoform Disorders, Factitious Disorder and Malingering requires a detailed understanding of the patients medical history, awareness of the production of symptoms and the motivations for producing the symptoms.
- In assessing cognitive complaints in Somatoform Disorders, Factitious Disorder and Malingering, multiple clinical and statistical procedures should be used.

Definition/Terminology

Broadly, somatoform disorders are characterized by somatization, a process in which an individual becomes preoccupied and over identified with, and even creates, on a nonconscious basis, physical symptoms that are not found to have a

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medical cause or that are out of proportion to any objective medical findings. The DSM-IV describes the following putative subtypes of somatoform disorder:

- Somatization Disorder: combination of unexplained pain, gastrointestinal, sexual, and peudoneurological symptoms which present before age 30,
- Conversion Disorder: unexplained sensory and/motor symptoms which mimic a neurological or general medical condition
- Pain Disorder: unexplained pain symptoms thought to be causally related to psychological factors
- Hypochondriasis: chronic fear and/or fixed belief, that one has a serious disease despite the absence of confirming medical laboratory findings and which is due to misperception of benign bodily symptoms.
- Body Dysmorphic Disorder: preoccupation with imagined or inflated defect in physical appearance.
- Undifferentiated Somatoform Disorder: unexplained physical symptoms lasting at least 6 months but below the threshold for a somatization disorder
- Somatoform Disorder Not Otherwise Specified: somatoform symptoms not meeting criteria for any of the other disorders.

Although the DMS-IV is silent regarding the occurrence of nonphysiologic cognitive symptoms in the somatoform disorders, available literature and clinical observation indicate that they are commonly present. Examination of Freud's original writings on conversion disorder describe reversible amnesia and clouding of consciousness accompanying hysterical attacks and neuralgias (Mace 1994), and more recently, nonphysiological cognitive symptoms have been described in the context of nonepileptic seizures (Williamson et al. 2007). In addition, nonplausible cognitive complaints have been reported in such probable somatization disorders as toxic mold exposure (McCaffrey and Yantz 2007), multiple chemical sensitivity (McCaffrey and Yantz 2007), and chronic fatigue syndrome (Suhr and Spickard 2007), as well as in chronic pain/fibromyalgia (Suhr and Spickard 2007). Further, presentations in which individuals claim significant cognitive dysfunction but on cognitive exam are found to be cognitively normal would suggest hypochondriasis (Boone, 2009a and Boone, 2009b).

Concerns have been raised regarding the diagnostic criteria for somatoform conditions, given evidence that large samples of patients may meet only partial criteria yet show substantial disruption in quality of life (Kroenke et al. 1997). In addition, the discrete somatoform diagnostic categories appear to be arbitrarily defined, with patients falling into various categories at differing points in time and/or within several categories at once. Some have suggested that illness preoccupation would be better conceptualized as an overarching construct (Liu et al. 1997) identified through the generic terms of somatization, health anxiety, and/or medically unexplained symptoms. Alternatively, other researchers have noted the considerable overlap between somatization and anxiety/depressive conditions (e.g., 80%; Henningsen et al. 2005), with some suggesting that the somatoform subcategories would be better captured by other psychiatric diagnoses (e.g., hypochondriasis/health anxiety in the anxiety disorders, conversion disorder under dissociative disorder, and somatization with personality disorders; Mayou et al. 2005).

Prevalence

According to the DSM-IV, prevalence of the somatoform disorders is relatively low, for example, <1–3% for Somatization Disorder and Conversion Disorder in the general population, and 4–9% for Hypochondriasis in general medical practice. However, "abridged" somatization disorder (requiring fewer criteria than the full condition) was noted to be present in over 4% of the general population (Escobar et al. 1987), with consistent findings of full or partial somatization disorders in 20% of patients in a general medical care settings, and full criteria for somatoform disorder in 30% of patients in neurology clinic settings (Lamberty 2007).

Etiology

Originally, somatoform disorders (especially conversion disorders) were conceptualized within psychoanalytic theory as representing psychological conflict that was "converted" and displaced into dysfunction of a body part or system. More modern theories have viewed somatoform symptoms as being created by psychological distress that is not properly identified as such in nonpsychologically minded individuals; the resulting stress "has to go somewhere" and appears in the form of physical complaints that these patients are more comfortable facing than the underlying emotional pain. Recent empirical studies point to several factors as contributing to the development of somatization: (1) longstanding elevated fears and concerns regarding bodily functions including hypervigilance to physical symptoms and perceptions that one is particularly fragile and vulnerable (Kellner et al. 1987; Rief et al. 1998), (2) social factors such as problematic early attachment (Waller et al. 2004), sexual abuse (Samelius et al. 2007; Spitzer et al. 2008), family history/modeling of functional symptoms (Taylor and Asmundson 2004), and lowered levels of social support (Nakao et al. 2005), as well as the possibility that somatization is adaptive from an evolutionary perspective in terms of securing resources (Mealy 1995), and (3) psychiatric disorders including depression (Lieb et al. 2007), anxiety/panic attacks (Demopulos et al. 1996), and histrionic personality disorders (Demopulos et al. 1996). However, these variables are generally static/trait characteristics and would

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Rule of thumb: Conceptualizing intent

- Nonconscious Processes:
  - Somatization, conversion, and pain disorders – creation of nonphysiologic symptoms
  - Hypochondriasis – *belief in* symptoms despite normal laboratory, imaging, and other test results
- Conscious Processes:
  - Malingering – deliberating feigning of symptoms for external goals
  - Factitious – deliberate feigning of symptoms *for psychological reasons*

not explain acute onset or fluctuating course of somatoform symptoms. In fact, somatoform symptoms likely develop in predisposed individuals when illness is particularly advantageous to the individual (e.g., in allowing one to be excused from stressful work responsibilities, in securing support and attention from others, in providing one with a special identity and unique life role, etc).

Malingering and Factitious Disorder

Definition/Terminology

According to the DSM-IV, malingering refers to conscious, deliberate feigning of symptoms for an obvious external incentive (i.e., for monetary compensation in the context of a lawsuit or disability benefits, to avoid military duty or criminal responsibility, to obtain drugs, etc.). As such, it is viewed as a volitional act which emerges in relation to external contingencies and is not a static condition.

In contrast, in factitious disorder, the symptom feigning is also thought to be conscious and deliberate, but the goal of the symptom fabrication is obscure and idiosyncratic to the individual. For example, in factitious disorder, the individual often appears to crave the notoriety and attention from medical personnel that accompany unusual symptoms, and to derive fulfillment from believing that one has "out-smarted" the typically better-educated medical personnel.

In both malingering and factitious disorders, symptom feigning can appear in discrete cognitive skills such as memory (verbal and/or visual), processing speed, motor function, visual perceptual/spatial skills, math calculation ability, basic attention, language skills including reading and spelling, executive/problem-solving, and remote memory. Alternatively, subjects may feign global cognitive impairment such as that observed in dementia or mental retardation. The choice of which symptoms to fabricate is driven by beliefs held by the individual as to what cognitive deficits accompany the disorder that is being feigned (i.e., brain injury, toxic exposure, anoxia, stroke, dementia, etc.), and is likely based on the type of cognitive symptoms that have been observed in persons with those disorders, and also how the disorders have been depicted on TV and in movies.

Prevalence

Malingering is found in those situations in which there is external incentive to be symptomatic. Mittenberg et al. (2002) reported survey results showing that experienced neuropsychologists estimate that in the presence of motive to feign symptoms (litigating or disability seeking), 41% of mild traumatic brain injury, 39% of fibromyalgia/chronic fatigue, 34% of chronic pain, 30% of neurotoxic, 26% of electrical injury, 16% of depressive disorders, 14% of anxiety disorders, 11% of

dissociative disorders, 9% of seizure disorders, and 9% of moderate/severe head injury patients were judged to be fabricating cognitive deficits. Within a workers' compensation stress claim sample, 15–17% have been found to be feigning deficits in cognitive function (Boone et al. 1995; Sumanti et al. 2006). The base rate for malingered neurocognitive dysfunction in pretrial inpatient criminal defendants referred for neuropsychological evaluation likely ranges from 63% to 73% (Denney 2007). Thus, malingering of cognitive symptoms is not rare, which has precipitated admonitions within the field of neuropsychology that measures of response bias be routinely administered, particularly in contexts in which there is motive to be symptomatic (AACN 2007; Bush et al. 2005).

Rates of factitious disorder are much lower, with estimates ranging from 0.3% in neurological inpatients (Bauer and Boegner 1996), 0.6% of psychiatric consults (Kapfhammer et al. 1998), 0.8% of referrals to hospital-based psychiatric consultation and liaison services (Sutherland and Rodin 1990), to 1.3% of surgery, neurology, internal medicine, and dermatology patients (Fliege et al. 2007); no data are available regarding specific prevalence of factitious-related cognitive symptom fabrication.

Etiology

Malingering is a volitional act in the service of a tangible goal, and thus, traditional concepts of "etiology" do not apply. In contrast, the deliberate feigning of symptoms in the absence of such obvious goals as monetary compensation or avoidance of criminal or work responsibility typically only occurs in conjunction with significant psychiatric disturbance, and in particular, borderline personality disorder (Sutherland and Rodin 1990). The goal of such factitious behavior is to adopt the sick role, and while the acts themselves are conscious, the motivations behind the behaviors are considered to be nonconscious (Wang et al. 2005). Common associated characteristics include employment within the healthcare system and particularly maladaptive coping skills (Wang et al. 2005).

Differential Diagnosis: Distinguishing Somatoform Disorder from Malingering/Factitious Conditions and Genuine Illness

The DMS-IV is of limited use in conceptualizing and diagnosing feigned cognitive symptoms; it was published in 1994, prior to the appearance of the large majority of the current literature on cognitive symptom validity tests. Further, some of its assertions regarding malingering have been found not to be accurate. For example, the listed diagnostic criteria for malingering include anti-social personality disorder and lack of cooperation in evaluation and treatment. However, available research shows no link between antisocial personality traits and failure on symptom validity tests, at least within workers' compensation and civil litigation settings (Boone et al. 1995; Greiffenstein et al. 1995; Sumanti et al. 2006). Similarly, individuals

feigning in these contexts tend to be overtly cooperative and solicitous during the examination, likely because they do not wish to antagonize the examiner into rendering a report unfavorable to their case.

The diagnosis of a somatoform disorder versus malingering or factitious disorder as expressed in cognitive symptoms involves first determining whether the patient exhibits credible cognitive performance, as assessed through the administration of indicators of response bias. Current recommended practice is to utilize several effort indicators interspersed throughout the cognitive exam (AACN 2007; Bush et al. 2005) to continuously sample effort (Boone 2009a, b). Response bias is not static and typically fluctuates across an evaluation depending on individual patient beliefs as to what skill deficits constitute brain dysfunction (e.g., if the person believes that motor dysfunction is a prominent finding in brain injury, evidence of response bias is likely to occur on measures of motor function). Failure on two or more effort indicators has been found to best discriminate between credible and noncredible populations (Larrabee 2003; Meyers and Volbrecht 2003; Suhr et al. 1997; Victor et al. 2009), although the more failed indicators the more confidence in conclusions. For example, failure on four or more tests approaches perfect specificity in that this number of failures is rare in truly symptomatic clinic populations (Victor et al. 2009). However, careful consideration should be given to the possibility of false positive effort test failures in populations particularly at risk for performing poorly on measures of response bias despite applying adequate effort, such as dementia (Dean et al. 2009), mental retardation (Dean et al. 2009), psychosis (Goldberg et al. 2007), and illiteracy and/or math disability (Victor and Boone 2007; Ziegler et al. 2008a; b).

The goal of a neuropsychological evaluation is to document level of cognitive function. However, if a patient fails numerous effort indicators, this objective is no longer attainable (because test scores are not valid), and instead the goal becomes to document level of effort. In the situation in which a patient fails one or two preliminary measures of response bias, it can be argued that there is no purpose in continuing with standard cognitive tests until adequacy of effort is assured. Should the patient continue to fail effort indices, the case can be made for defaulting to an "effort" battery (see Table 18.1 for a list of selected free-standing effort tests as well as embedded indices derived from standard cognitive tests). Once incontrovertible documentation of response bias is obtained (e.g., in many cases, patients will fail five or more indicators, performances that are 100% predictive of symptom feigning), the exam may be discontinued. The embedded effort indicators are contained in measures of verbal memory and visual memory, attention, processing speed, and motor function, and standard scores from these tests can be used to show that performances are markedly below those expected for the condition at issue (i.e., mild TBI). Additionally, it can at times be useful to administer standard cognitive tests that do not include effort indicators to illustrate performances on identical tests on sequential exams have "ping ponged" around in a nonsensical manner.

- If a patient is documented to fail numerous measures of response bias, the next step is to attempt to determine if the symptom fabrication is conscious, nonconscious, or both. Unfortunately, available exam techniques do not distinguish between conscious and nonconscious cognitive symptom fabrication. For example,

Table 18.1 Sensitivity rates for common measures of response bias/effort with a minimum specificity of 88% for "real world" noncredible subjects

FREE-standing effort indices	Sensitivity	References
TOMM		Greve et al. (2008)
Trial 2		
Cut-off ≤ 48 (for TBI)	70%	
Cut-off ≤ 49 (for pain)	55%	
Retention		
Cut-off ≤ 48 (for TBI)	70%	
Cut-off ≤ 48 (for pain)	50%	
Word memory test		Greve et al. (2008)
IR		
Cut-off ≤ 75 (for TBI)	59%	
Cut-off ≤ 87.5 (for pain)	60%	
DR		
Cut-off ≤ 77.5 (for TBI)	63%	
Cut-off ≤ 87.5 (for pain)	57%	
Con 1		
Cut-off ≤ 72.5 (for TBI)	63%	
Cut-off ≤ 82.5 (for pain)	55%	
Warrington Recognition Memory Test – Words		Kim et al. (2008)
Cut-off ≤ 42 (for mixed sample)	90%	
Rey Word Recognition Test		Nitch et al. (2006)
Cut-off for combination score ≤ 9 (for TBI)	82%	
Cut-off ≤ 5 (for male mixed sample)	63%	
Cut-off ≤ 7 (for female mixed Sample)	81%	
Portland Digit Recognition Test		Greve et al. (2008)
Easy		
Cut-off ≤ 24 (for TBI)	74%	
Cut-off ≤ 26 (for pain)	47%	
Hard		
Cut-off ≤ 19 (for TBI)	56%	
Cut-off ≤ 20 (for pain)	47%	
Total		
Cut-off ≤ 44 (for TBI)	70%	
Cut-off ≤ 46 (for pain)	41%	
Dot counting test		Boone et al. (2002a);
E-score cut-off ≥ 17 (for mixed sample)	73–79%	Boone and Lu (2007)
E-score cut-off ≥ (for TBI)	72%	
B test		Boone et al. (2002b)
E-score cut-off ≥ 150 (for mixed sample)	64%	
E-score cut-off ≥ 90 (for TBI)	77%	
Validity indicator profile		Ross and Adams (1999)
Verbal invalid	27%	
Nonverbal invalid	45%	

Table 18.1 (continued)

FREE-standing effort indices	Sensitivity	References
Rey 15-item		Boone et al. (2002c); Boone and Lu (2007)
Standard administration		
Cut-off < 9 (mixed sample)	46%	
With Recognition trial		
Cut-off < 20 (mixed sample)	56–71%	
Embedded effort indices		
CVLT forced choice recognition		Root et al. (2006)
Cut-off ≤ 14 (mixed sample)	44%	
RAVLT		Boone et al. (2005)
Recognition		
Cut-off ≤ 9 (mixed sample)	67%	
Equation	74%	
Cut-off ≤ 12 (mixed sample)		
Rey complex figure equation		Lu et al. (2003); Boone and Lu (2007)
Cut-off ≤ 45 (mixed sample)	64–74%	
RAVLT/RO Discriminant Function		Sherman et al. (2002); Boone and Lu (2007)
Cut-off ≤ –0.40 (mixed sample)	61–71%	
Digit span		Babikian et al. (2006); Babikian and Boone (2007)
ACSS		
Cut-off ≤ 5 (mixed sample)	36–47%	
RDS		
Cut-off ≤ 6 (mixed sample)	38–57%	
Vocabulary minus Digit Span		
Cut-off ≥ 5 (mixed sample)	5% (IQ ≤ 85) – 50% (IQ >85)	
Finger tapping (dominant – mean of 3 trials)		Arnold et al. (2005)
Men		
Cut-off ≤ 35 (mixed sample)	50%	
Women		
Cut-off ≤ 28 (mixed sample)	61%	

Specificity of all indices and measures ≥ 88%

significantly below chance performance on forced choice symptom validity tests has been argued to be a "gold standard" for identifying malingered symptoms, yet 25% of hypnotized individuals, whose behavior is thought not to be under conscious control, when instructed to display memory impairment, obtain scores at this level (Spanos et al. 1990). The MMPI-2 has been traditionally used to identify somatization as evidenced by a "conversion V" (i.e., particular elevations on the hypochondriasis and hysteria scales), although more recent studies have shown that individuals thought to be deliberately faking physical symptoms also show this pattern (Larrabee 1998). Interestingly, preliminary functional neuroimaging studies appear to demonstrate comparable areas of brain activation in both deliberate lying and conversion disorder (right frontal and

anterior cingulate areas; Ganis et al. 2003; Halligan et al. 2000; Kozel et al. 2004a; Kozel et al. 2004b; Langleben et al. 2002; Marshall et al. 1997; Tiihonen et al. 1995).

- These findings raises the obvious question as to whether "nonconscious" symptom production in fact exists since it cannot be distinguished from conscious feigning on psychometric and imaging parameters. However, the wealth of clinical experience argues that that there is a distinction between patients who only don their symptoms for medical evaluations conducted during the course of a lawsuit or disability exam versus patients who adopt an invalid lifestyle in which their symptoms become a prominent part of their identity. Malingerers and individuals with factitious disorder "know" their symptoms are false; they are engaging in "other" deception but not self-deception. In contrast, somatoform patients are not consciously aware of their symptom creation and thus are, on some level, primarily deceiving themselves.

  – The determination of malingering/factitious versus somatoform currently is one of "art" and requires obtaining qualitative information regarding the degree to which a patient "believes" in his/her symptoms. This can be gauged by obtaining information as to whether the symptoms are present continuously versus just in a medical evaluation context (e.g., through surveillance tapes, by querying individuals who know the patient regarding the extent to which the patient displays symptoms in nonmedical settings, etc.). In addition, possible conscious components to a symptom presentation can be inferred when a patient is found to "censor" information harmful to his/her litigated case (e.g., denying history of pre-accident symptoms which are, in fact, documented in medical records). However, complicating the picture is that conscious and nonconscious symptom fabrication may not be mutually exclusive, but may instead lie on a continuum of other deception versus self deception, or lie on two separate continua, one reflecting other deception and the other measuring self deception. Further, a patient's placement on the trajectories may not necessarily be static. Thus, determination of nonconscious versus conscious bases for symptom fabrication is problematic and often not possible.

- If the patient passes measures of response bias, the next step is to determine if any cognitive abnormalities are identified on formal neuropsychological measures.

  – If the patient scores essentially within normal limits despite complaints of prominent cognitive impairment, this would raise the possibility of hypochondriasis, which is characterized by fixed belief in the presence of illness in the absence of any objective evidence of dysfunction. Evidence of somatization on the MMPI-2 [elevation on somatic complaints (RC1) as well as low score on cynicism (RC3) or 1–3 codetype on traditional clinical scales; moderately elevated FBS] or other personality inventories would further buttress a diagnosis of hypochondriasis.

  – If the patient shows significant cognitive abnormalities on formal testing, the next step would be to determine what condition(s) in the patient's medical and psychiatric history could be etiological, such as moderate to severe brain injury and other neurologic conditions, learning disability and attention deficit

disorder, depression, psychosis, chronic medical illnesses, substance abuse and/
or medication overuse, etc. However, somatization often co-occurs with actual
medical disorders, and would be illustrated by personality test findings showing
elevations on scales measuring somatic complaints. Unfortunately, there is a
common misperception within neuropsychology that personality inventories
were developed on, and for, psychiatric populations, and that findings do not
translate well to neurologic populations. In fact, the MMPI hypochondriasis
scale was developed on normal controls, psychiatric patients, medical patients, and
patients diagnosed with hypochondriasis (Greene 1991). Observed elevations on
hypochondriasis scales are often attributed to expected and realistic concern
over actual physical illness. However, reference sources for the MMPI-2 note
that actual medical patients show only minor, nonsignificant elevations on the
hypochondriasis scale, and indicate that "if a client with actual physical illness
obtained a T score of 65 or higher on Scale 1, there are likely to be hypochon-
driacal features in addition to the physical condition, and the client is probably
trying to manipulate or control significant others in the environment with the
hypochondriacal complaints" (Greene 1991, p. 137) (Fig. 18.1).

Course and Treatment Outcomes

Studies show that approximately 50% of young adults diagnosed with a somatoform
condition were still symptomatic 4 years later (Lieb et al. 2002), while 2/3 of indi-
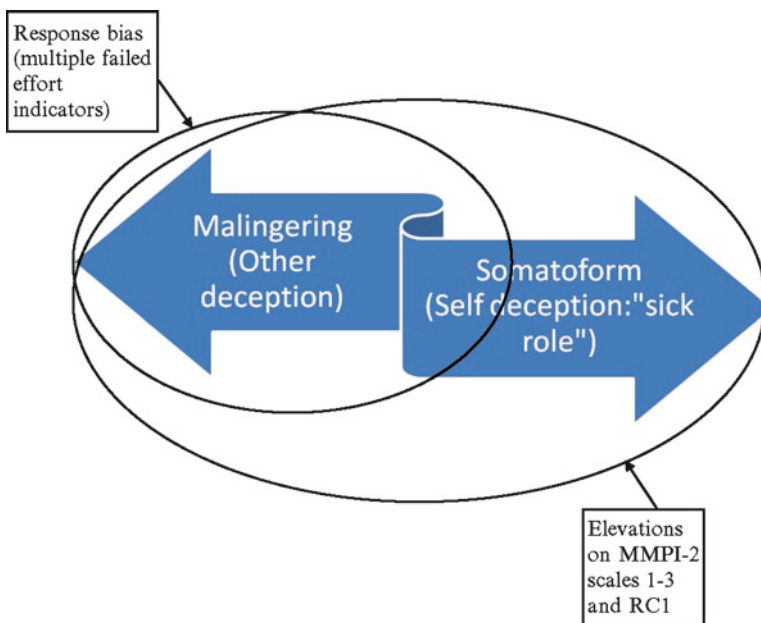

Fig. 18.1 Illustration for a conceptualization of Somatoform disorders and malingering

viduals diagnosed with hypochondriasis still met criteria for the disorder 4–5 years later (Barksy et al. 1998). In primary care, patients fulfilling criteria for abridged somatization disorder, 18% were still symptomatic 12 months later, and 16% were rated as showing residual hypochondriacal worries (Simon et al. 2001); depression and anxiety were predictors of both onset and persistence of somatization. Cognitive behavioral therapy has received the most empirical support for treatment of somatoform disorders. Intensive cognitive behavioral treatment has been associated with positive response in over 60% of patients, with nonresponse predicted by greater pre-treatment hypochondriasis, more somatization symptoms and psychopathology, more inaccurate cognitions regarding body functions, more psychosocial dysfunction, and more utilization of healthcare services (Hiller et al. 2002)

Unfortunately, factitious disorder appears to be even less treatable than somatoform disorders. Available research shows no difference in outcomes between confrontational versus nonconfrontational approaches, and between psychotherapy or medication versus no treatment (Eastwood and Bisson 2008).

Rule of thumb: Testing for response bias

Do the following:

- Employ multiple effort indices to provide greater confidence in conclusions
- Utilize effort indices with adequate sensitivity (see Table 18.1)
- Select measures of response bias/cut-offs appropriate for the differential diagnosis (e.g., actual versus feigned mild traumatic brain injury, psychosis, depression) and demographic and other characteristics of the test-taker (low IQ, learning disability, ethnicity/language, gender, etc.)
- Choose a range of effort indices that encompass various cognitive domains (e.g., memory, attention, processing speed, visual spatial skills), and in particular those which overlap with claimed symptoms (e.g., decreased memory, math skills, thinking speed, etc.)
- Provide results of effort indices in your report but in a manner that does not compromise test security (e.g., do not describe test stimuli or format)

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