Diagnostic Criteria for Malingered Neurocognitive Dysfunction: Proposed Standards for Clinical Practice and Research*

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ABSTRACT

Over the past 10 years, widespread and concerted research efforts have led to increasingly sophisticated and efficient methods and instruments for detecting exaggeration or fabrication of cognitive dysfunction. Despite these psychometric advances, the process of diagnosing malingering remains difficult and largely idiosyncratic. This article presents a proposed set of diagnostic criteria that define psychometric, behavioral, and collateral data indicative of possible, probable, and definite malingering of cognitive dysfunction, for use in clinical practice and for defining populations for clinical research. Relevant literature is reviewed, and limitations and benefits of the proposed criteria are discussed.

Currently, a large proportion of referrals for neuropsychological assessment is being generated by personal injury litigation, worker’s compensation, and other systems in which those being referred may receive substantial financial rewards for demonstrating cognitive deficits, either legitimate or successfully feigned. Often, neuropsychological data, reports, and expert testimony strongly influence final decisions about the size of financial settlements. Neuropsychologists are therefore increasingly required to explicitly evaluate the likelihood that observed cognitive deficits are real or feigned. This task is highly problematic not only because those who feign deficits actively attempt to prevent detection, but also because of the high individual and systemic costs of both false-negative and false-positive errors. Given these circumstances it is surprising that a set of specific, clearly articulated, and clinically applicable criteria for rating the likelihood that a patient is malingering neurocognitive dysfunction is not in widespread use. As well as facilitating clinical practice and professional communication, such criteria would also greatly facilitate systematic research about malingering.

Various definitions and criteria for diagnosing malingering have been published, most notably those of the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition (DSM-IV; American Psychological Association, 1994), Rogers (1990a, 1990b), and Greiffenstein, Baker, and Gola (1994). However, further refinements are needed to produce a definition and set of diagnostic criteria specific to malingering of neurocognitive dysfunction that are adequate for everyday use in clinical neuropsychology. In this position paper, we attempt to address limi-
Current Diagnostic Models of Malingering

Diagnostic criteria facilitate professional communication and delivery of health care services, and ensure that clinical research findings are descriptive of well-defined populations. As is the case with many clinical disorders or syndromes described in current nosologies such as the DSM-IV, complete consensus on the definition and criteria for malingering has not been reached. In the DSM-IV, malingering is classified as a V-Code: behavior that may be worthy of clinical attention but not a mental disorder per se. Consequently, formal diagnostic criteria for malingering are not provided. Instead, the DSM-IV contains a general definition, several clinical suspicion indices, and a brief review of differential diagnoses. The DSM-IV defines malingering as “the intentional production of false or grossly exaggerated physical or psychological symptoms, motivated by external incentives such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs” (American Psychological Association, 1994, p. 683). Thus, malingering is distinguished from potentially similar appearing presentations that are not part of a volitional attempt to obtain readily identifiable and commonly accepted external incentives. Examples of such presentations include poor or inconsistent effort, as well as defensive, hostile, or oppositional approaches to test taking that result from fatigue, psychiatric disturbance, and legitimate neurological impairment.

The concept of volition – conscious, self-directed behavior – and the nature of incentives are crucial elements of the DSM-IV definition of malingering, and contribute to differentiation from other clinical disorders involving symptom exaggeration or fabrication. For example, factitious disorder (FD), like malingering, is characterized by intentionally produced symptoms suggestive of injury or disease; however, unlike the external motivation of persons who mangle, the primary motivation for persons with FD is psychological (i.e., it does not involve material gain or release from formal responsibility). Like FD, conversion disorder (CD) is characterized by fabricated symptoms suggestive of injury or disease that are motivated by psychological factors rather than external incentives. However, unlike FD or malingering, CD symptoms are not under volitional control. The essential contrasts between malingering, FD, and CD are presented in Table 1.

Dichotomous diagnostic criteria such as external versus psychological incentives, and volitional versus unconscious behavior are easy to write into definitions, but in practice, judging the degree to which a behavior is volitional is fraught with uncertainty, and disentangling which incentive is primary in cases where external and internal incentives coexist – as is often the case – can be exceedingly difficult. The task

Table 1. Differences Between Malingering, Conversion Disorder, and Factitious Disorder.

<table>
<thead>
<tr>
<th></th>
<th>Behavior under Volitional control</th>
<th>Type of Incentive</th>
<th>Examples of Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malingering</td>
<td>Yes</td>
<td>External</td>
<td>Obtain substantial financial reward, escape from formal duty or punishment</td>
</tr>
<tr>
<td>Conversion Disorder</td>
<td>No</td>
<td>Psychological</td>
<td>Manage stress or conflict</td>
</tr>
<tr>
<td>Factitious Disorder</td>
<td>Yes</td>
<td>Psychological</td>
<td>Play sick role, receive attention or other nonfinancial reinforcement, escape from informal duty, manage stress or conflict</td>
</tr>
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is all the more difficult without a set of specific and widely agreed upon behavioral criteria. An additional problem with the DSM-IV criteria is the specification that other conditions involving exaggerated symptoms such as FD and CD rule out malingering. For example, comorbidity of malingering and FD is impossible in DSM-IV. No justification for making such diagnoses mutually exclusive is offered despite the fact that psychological and financial incentives often co-exist and behavior can clearly be motivated by both external and internal incentives. Second, because it was primarily designed to assess psychiatric conditions, the DSM-IV provides little guidance in the assessment of exaggeration or fabrication of neurocognitive deficits within the context of the neuropsychological evaluation.

The limitations of the DSM criteria for malingering have spurred clinicians and researchers to offer alternate definitions and criteria for malingering. For example, Rogers (1990a) proposed specific diagnostic criteria for malingering of psychiatric disturbance that incorporated multiple sources of data from different domains, including self-report, test scores, behavioral observations, and collateral information. Using a model similar to the DSM, Rogers specified a minimum number of criteria from each domain that are necessary for a diagnosis of malingering. These included endorsement of an unusually high number of rare symptoms, contradictory collateral information, and evidence of exaggeration or fabrication of symptoms from standardized tests. Rogers also listed diagnostic contraindications, including the presence of factitious disorder. Although Rogers’ criteria are a substantial step forward in clarifying the confusion regarding the definition of malingering, no data on the reliability, validity, or utility of these criteria have yet been reported. Additionally, because Rogers developed his set of criteria for use in psychiatric assessments, important diagnostic issues specific to neuropsychological assessment are not addressed, such as the provision of an operational definition of psychometric evidence of feigned cognitive impairment.

More recently, Greiffenstein et al. (1994) proposed a set of criteria for the diagnosis of ‘overt’ malingering of memory dysfunction designed specifically for use in neuropsychological settings, in particular for litigating postconcussive patients. These consist of (1) improbably poor performance on two or more neuropsychological measures; (2) total disability in a major social role; (3) contradiction between collateral sources and symptom history; and (4) remote memory loss. In two studies, Greiffenstein and colleagues (Greiffenstein et al., 1994; Greiffenstein, Gola, & Baker, 1995) demonstrated clinically significant associations between classifications made by their index and scores on malingering measures, including forced-choice tests of symptom validity. These results provided evidence not only for the validity of Greiffenstein et al.’s diagnostic criteria, but also for the strong link between performance on some malingering tests and patient behavior outside the testing room.

The diagnostic criteria proposed by Greiffenstein et al. are clearly a step in the right direction, but their criteria can be improved in several ways. First, the criteria do not include an explicit definition of malingering. Second, rule-out conditions or differential diagnoses are not specified. Third, behavioral observations are not included in the criteria. Fourth, some of the criteria are underspecified. For example, Criteria 4 (“remote memory loss”) is too vague to reliably apply in clinical or research settings. Fifth, the Greiffenstein criteria are restricted to the evaluation of feigned memory deficits only, and thus provide no guidelines for the evaluation of exaggeration or fabrication of other neurocognitive domains.

In contrast to criteria in which determinations about motivation and volition are essential (e.g., DSM-IV), Pankratz has suggested that conscious intent is irrelevant to the definition of malingering, arguing instead that “intentions, awareness, conscious purposes, and psychodynamics should not be the main focus of the diagnostic process” (Pankratz & Erickson, 1990, p. 386). According to Pankratz, intent and volition cannot be reliably assessed and therefore the diagnosis of malingering should not require any judgments about a patient’s internal states. It is interesting to note that Pankratz chose labels that are not drawn from widely accepted current
psychiatric or psychological nosologies to illustrate his point about the limited diagnostic value of judgments about intent or volition (e.g., shoplifter and arsonist are not listed as diagnoses in the DSM-IV). He observed that: "we use the labels of arsonist and shoplifter without regard to the actor’s control or awareness; we should be able to use psychiatric labels similarly” (p. 386). More recently, Pankratz and Binder (1997) updated the purely behavioral approach by providing a list of seven behaviors suggestive of malingering. These behaviors include: (1) marked inconsistency between reported and observed symptoms; (2) marked inconsistency between diagnosis and neuropsychological findings; (3) resistance, avoidance, or bizarre responses on standardized tests; (4) failure on specific measures of faking; (5) functional findings on medical examination; and (6) late onset of cognitive complaints following accident.

Pankratz makes a compelling case (Pankratz & Erickson, 1990, p. 386). It is undeniable that inferences about internal states and processes are always associated with some level of uncertainty (as are inferences drawn from “objective” test scores). However, the diagnosis of malingering would not be unique to rely on such deductions. Judgments about internal states are in fact necessary, if not crucial, for many clinical diagnoses. For example, hallucinations – a decidedly nontrivial clinical symptom – are like volition in that they are an internal event or state, the presence or absence of which can only be inferred from behavior. As a second example, consider Pankratz’s example of shoplifting in the context of kleptomania. The diagnosis of kleptomania (American Psychological Association, 1994) requires not only behavior that can be directly observed (e.g., shoplifting), but also a clinical judgment about internal states (overwhelming impulse to steal). A patient may present in a forensic setting with symptoms of kleptomania that may be real or malingered, and the diagnostic decision – with all of the adjudication and treatment issues that follow – turns on an evaluation of intent, motivation, and ability to conform behavior. Unless all cases of exaggeration or fabrication of deficits constitute malingering, then the exclusion of any methods or guidelines for making determination about volition and intent is a significant limitation of purely behavioral approaches to diagnosing malingering.

Faust and Ackley (1998) also provide a list of six behavioral manifestations of “intentional” sources of inaccuracies in neuropsychological test data, including (1) poor effort on testing; (2) exaggeration of symptoms; (3) fabrication of symptoms; (4) false attributions (purposefully withholding or distorting history concerning other causes of symptoms); (5) presenting a false baseline (purposefully withholding or distorting information about premorbid function); and (6) denial or failure to acknowledge strengths, positive abilities, or positive areas of function. However, unlike Pankratz (Pankratz & Erickson, 1990), Faust and Ackley (1998) clearly state that “two basic dimensions, falsification and intentionality, are inherent or intrinsic components of malingering….[and]….to identify malingering, both dimensions will need to be assessed.” (p. 19). Thus, all of the behaviors that make up the spectrum of intentional inaccuracies are symptomatic of malingering if the “intention” is to obtain an external reward. Faust and Ackley are clear to caution however, that detecting intentional inaccuracies is not the same thing as determining what the intention is.

Informing the Construction of Criteria: Empirical Studies of Malingered Neuropsychological Dysfunction

When attempting to construct an improved set of diagnostic criteria, it is useful to review not only previous definitions and criteria, but also research on the frequency, reliability, and validity of specific diagnostic signs or symptoms of the target “disorder”. A variety of methods and measures are currently used to detect the presence of exaggeration and fabrication within the context of the neuropsychological evaluation. These include: (1) inconsistencies or other signs from the patient’s reported symptoms; (2) inconsistencies or other signs from standard neuropsychological tests; and (3) measures or indices designed expressly to detect feigning of cognitive deficits.
Self-Report
Very few studies have attempted to systematically evaluate aspects of patient self-report that might be indicative of malingering. There has been limited research on the “neuropsychological” knowledge-base among laypersons, but the data suggest that although naïve individuals are capable of endorsing symptoms consistent with head injury, they are also susceptible to endorsement of highly unusual items that distinguish them from individuals with legitimate head injuries. For example, Aubry, Dobbs, and Rue (1989) found that undergraduate students had a good knowledge about physical symptoms that typically follow minor head trauma. However, participant knowledge about typical cognitive and psychiatric symptoms was poor, with many participants endorsing highly unusual symptoms, such as uncontrollable laughter. In fact, unusual symptoms wereendorsed with the same frequency as much more likely cognitive sequelae such as difficulty remembering phone numbers.

Similar results were also reported by Gouvier, Prestholt, and Warner (1988). In contrast to these findings are reports of good understanding of cognitive sequelae of head injury among naïve participants (undergraduates and members of the general community) reported by Lees Haley and Dunn (1994) and Mittenberg, Di-Giulio, Perrin, and Bass (1992). However, neither of the symptom checklists used in the latter two studies contained rare or unlikely symptoms, so there was no opportunity for naïve participants to distinguish themselves in the way that participants in the Gouvier et al. (1988) study did. Nonetheless, Lees Haley and Dunn make the point that their research may be more applicable to typical clinical practice because clinicians often give patients checklists that do not contain improbable symptoms, nor do they query such symptoms during interview. In summary, analog studies have demonstrated that naïve malingerers may be distinguished by self-reported symptoms that are highly atypical of patients with legitimate brain injuries in type, severity, frequency, and chronicity. However, there are as yet no objective indices based on specific patterns of symptom endorsement that are adequately validated.

Test Data
Only one study to date has extensively evaluated actual test-taking and self-presentation strategies that persons use to mangle. Iverson (1995) obtained self-report information of malingering strategies used by experimental study participants including university undergraduates, community volunteers, psychiatric inpatients, and federal inmates. Strategies for both preparation and test-taking were reported. Less than 4% of the respondents described any individual method for preparation, such as studying the effects of head injury, or engaging in corroboratory behaviors, such as missing appointments. The test-taking strategy reported most often (16%) was to fake total amnesia. Other reported strategies included “poor cooperation, aggravation and frustration, slow response latencies and frequent hesitations, and general confusion during the testing process.” (p. 37) Responses were notable both for limited numbers of strategies and limited descriptions of how strategies would be operationalized. Interestingly, no study has directly measured the relationship between neuropsychological knowledge and ability to believably fake cognitive deficits.

Although very limited self-report data on malingerer strategies are available, an increasingly large number of studies have evaluated the utility of malingering indices based on patterns of scores within and across standard neuropsychological tests. The assumption underlying these studies is that successfully simulating impairment across multiple measures is more difficult than feigning on any single measure. Thus, the simultaneous statistical evaluation of multiple test or item scores may increase detection rates relative to the evaluation of single scores in isolation. This approach---often referred to as the pattern of performance method---is probably the most effective way to detect malingering with conventional neuropsychological measures.

There are at least four procedures for detecting malingering that fall under the rubric of the pattern of performance method (PPM). In the
first procedure, performance on “floor” items are evaluated for rare errors (e.g., forgetting one’s own name). Alternatively, and particularly when items are not presented in order of increasing difficulty, scores for easy items are compared to scores on more difficult items or performance curves across multiple items of varying difficulty are evaluated (Baker, Hanley, Jackson, Kimmance, & Slade, 1993; Fredrick, & Foster, 1991; Tenhula, & Sweet, 1996). A variation on this method is the evaluation of scores within or across tests for congruency of performance on measures within a specific domain. A second PPM is the evaluation of scores or score profiles within or across tests for congruency with established patterns of function or dysfunction within a domain. Example indices include unusual patterns of serial position effects in list learning and other memory tests (Bernard, 1991; Russell, Spector, & Kelly, 1993), comparisons of recall to recognition (Beetar, & Williams, 1994; Bernard, 1990, 1991; Binder, Villanueva, Howieson, & Moore, 1992; Brandt, 1988; Knight, & Meyers, 1995), and comparisons of indices of attention to indices of memory (Mittenburg, Azrin, Millsaps, & Heilbronner, 1993).

A third means of deriving pattern of performance indices is the post hoc application of statistical procedures (e.g., discriminant function analysis) to scores obtained from established contrast groups such as analog malingerers (i.e., research participants instructed to feign cognitive dysfunction), probable malingerers, and non-litigating patients (Bernard, Houston, & Natoli, 1993; Bernard, McGrath, & Houston, 1996; Fredrick, & Foster, 1991; Fredrick, Sarfaty, Johnston, & Powel, 1994; Hayward, Hall, Hunt, & Zubrick, 1987). A fourth variation on PPMs that has recently shown promise in an initial validation study is the examination of magnitude of errors (Martin, Franzen, & Orey, 1998). These approaches are discussed in detail and reviewed extensively by Cercy, Schretlen, and Brandt (1997), Nies and Sweet (1994), Pankratz and Binder (1997), Reynolds (1998), Rogers (1997), and Rogers, Harrell, and Lif (1993).

Overall, attempts to develop malingering indices for conventional neuropsychological tests have met with mixed success. Although most of the recent studies using pattern of performance pattern indices have shown considerable promise, other studies report that conventional neuropsychological tests and test batteries may be ineffective in distinguishing malingered from legitimate impairment (Bernard, 1990, Faust & Guilmette, 1990; Faust, Hart, & Guilmette, 1988; Faust, Hart, Guilmette, & Arkes, 1988; Heaton, Smith, Lehman, & Vogt, 1978). Of those studies that have demonstrated the potential utility of particular malingering indices, most remain unreplicated or cross-validated and adequate data on positive predictive power are therefore lacking. In addition, the majority of studies on using conventional tests to detect malingering have relied on samples that restrict generalizability (e.g., analog malingerers). There are relatively few studies using known-group comparisons, such as litigating versus non-litigating patients with mild head injuries (Rogers, 1997).

Rather than focusing on detection through identifying “malingering” profiles on conventional neuropsychological measures, a separate line of investigation has focused on developing methods or tests specifically designed to detect aspects of performance suggestive of feigning. For example, Rey’s 15-Item test (Lezak, 1995) and the Dot Counting Test have traditionally been used to measure floor effects; the Recall-Recognition test was designed to detect violation of learning principles (Brandt, Rubinsky, & Lassen, 1985); and the Modified TONI (Frederick, & Forster, 1991) to detect violation of the expected performance curve (Rogers, 1997). Although a small number of these tests (e.g., Rey 15 Item) are now in widespread use, inadequate positive and negative predictive power is a significant problem for most (e.g., Millis, & Kler, 1995), and results can rarely be considered definitive. Symptom Validity Tests (SVTs) are an exception in terms of positive predictive power. Essentially, SVTs apply probabilistic analysis to patient performance on forced-choice tests of sensory or cognitive function. Scores that are above or below a large (90% or more) confidence interval around chance are highly unlikely to be the product of random respond-
ing, and can instead be considered the product of purposeful selection of correct or incorrect answers (in either case depending on intactness of function), with the latter being indicative of exaggerated or faked deficits. Current SVTs are essentially of two types: (1) adaptations of conventional tests of recognition memory or sensory function (e.g., Fredrick, & Foster, 1991; Iverson, & Franzen, 1994, 1996, Millis, 1992); and (2) entirely new tests (e.g., Beetar, & Williams, 1995; Binder, 1993; Hiscock, & Hiscock, 1989; Iverson, Franzen, & McCracken, 1991, 1994; Pankratz, 1983; Slick, Hopp, Strauss, & Thompson, 1997; Tombaugh, 1996). No cases of false positive errors have been reported when malingering was confirmed by performance below chance on a SVT.

Thus, short of confession, below chance performance on symptom validity testing is closest to an evidentiary “gold standard” for malingering. However, these tests typically have only moderate sensitivity and thus low negative predictive power. That is, scores in the valid range on SVTs do not conclusively rule out malingering, and they are thus not suitable for use as the sole index of patient veracity.

A fundamental limitation of all studies of malingering is that malingers rarely if ever self-identify, and thus true representative malingering samples can never be obtained, the actual base rate in clinical samples cannot be known, and the true error rates of detection methods cannot be established. The limitations inherent in all current psychometric methods means that there is currently no single valid and reliable pathognomonic sign of malingering, short of disclosure of such behavior by the patient. Almost no research exists on the co-existence of legitimate neuropsychological dysfunction with poor effort or malingering (Barton, Boone, Allman, & Castro, 1995), and therefore one of the most pressing questions in malingering research today is whether it is possible to tease apart legitimate from exaggerated impairment in cases where both may be present.

In consideration of the current state of the art, Nies and Sweet (1994) suggest that clinicians adopt a multidimensional, multimethod approach to detecting malingering of neuropsychological deficits, including: the use of specific tests of malingering or standard neuropsychological tests with forced-choice formats; examination of intra- and inter-test performance for highly inconsistent or nonsensical patterns of scores; systematic collection of self-report data on symptoms and history for evaluation of discrepancies with test performance; and systematic collection of collateral data and evaluation of extra-test behavior for evaluation of discrepancies with test performance.

Overview and Introduction to Proposed Criteria

With Nies and Sweet’s (1994) guidelines in mind, five imperatives were used to guide the development of the proposed malingering criteria, namely, the need for: (1) a specific definition of malingering of cognitive dysfunction within the context of the neuropsychological assessment; (2) specific, unambiguous, and reliable criteria that cover all possible sources of evidence (i.e., test-performance, observations, and collateral data); (3) specification of the relative importance of diagnostic criteria; (4) specification of the nature and role of clinical judgment; (5) specification of differential diagnoses and exclusionary criteria; and (6) specification of levels of diagnostic certainty.

Because it is not often possible to determine whether or not a patient is malingering with absolute certainty, the proposed criteria were designed to include formal specification of levels of diagnostic certainty (i.e., possible, probable, and definite malingering). Malingering is not a unique diagnostic challenge in this regard. Thus, criteria for other clinical diagnoses that include formalized levels of diagnostic certainty provided useful examples. For example, Alzheimer’s disease (AD) typically cannot be diagnosed with 100% confidence. Consequently, separate criteria for definite, probable, and possible AD have been defined in lieu of a single set of criteria (McKhann et al., 1984). The NINCDS-ADRDA criteria for diagnosis of AD reflect both the breadth of data that inform the diagnostic process (e.g., type and history of signs and symptoms, data from psychometric examination, and laboratory tests) as well as the
relative importance of specific findings. Thus, a
diagnosis of definite AD requires specific histo-
logical findings in addition to the pattern of data
necessary for a diagnosis of probable AD. Data
specifically consistent with AD in the absence of
definitive evidence (i.e., neuropathological evi-
dence) leads to a diagnosis of probable AD. In
cases where the data are consistent with AD, but
other etiologies cannot be ruled out, the diagno-
sis is reduced to possible AD. Another useful
model for levels of diagnostic certainty is that
put forward by Grant and Martin (1994, p. 362)
for HIV-1 Associated Dementia Complex: “The
designation probable is used when criteria are
met, there is no other likely cause, and data are
complete. The designation possible is used if
another potential etiology is present whose con-
tribution is unclear, or where dual diagnosis is
possible, or when the evaluation is not com-
plete.” These examples were used as models in
our formulation of levels of diagnostic certainty
in the criteria presented below.

Table 2. Proposed Definition and Criteria for Possible, Probable, and Definite Malingering of Neu-
rocognitive Dysfunction (MND)

Definition
Malingering of Neurocognitive Dysfunction (MND) is the volitional exaggeration or fabrication of
cognitive dysfunction for the purpose of obtaining substantial material gain, or avoiding or escaping
formal duty or responsibility. Substantial material gain includes money, goods, or services of
nontrivial value (e.g., financial compensation for personal injury). Formal duties are actions that
people are legally obligated to perform (e.g., prison, military, or public service, or child support
payments or other financial obligations). Formal responsibilities are those that involve accountability
or liability in legal proceedings (e.g., competency to stand trial).

Diagnostic Categories for Malingering Neurocognitive Dysfunction (MND)

Definite MND
This is indicated by the presence of clear and compelling evidence of volitional exaggeration or
fabrication of cognitive dysfunction and the absence of plausible alternative explanations. The spe-
cific diagnostic criteria necessary for Definite MND are listed below:

1. Presence of a substantial external incentive [Criterion A]
2. Definite negative response bias [Criterion B1]
3. Behaviors meeting necessary criteria from group B are not fully accounted for by Psychiatric,
   Neurological, or Developmental Factors [Criterion D]

Probable MND
This is indicated by the presence of evidence strongly suggesting volitional exaggeration or fabrica-
tion of cognitive dysfunction and the absence of plausible alternative explanations. The specific
diagnostic criteria necessary for Probable MND are listed below.

1. Presence of a substantial external incentive [Criterion A]
2. Two or more types of evidence from neuropsychological testing, excluding definite negative re-
   sponse bias [two or more of Criteria B2-B6]
   Or
   One type of evidence from neuropsychological testing, excluding definite negative response bias,
   and one or more types of evidence from Self-Report [one of Criteria B2-B6 and one or more of
   Criteria C1-C5]
3. Behaviors meeting necessary criteria from groups B and C are not fully accounted for by Psychiatric, Neurological, or Developmental Factors [Criterion D]

Possible MND
This is indicated by the presence of evidence suggesting volitional exaggeration or fabrication of cognitive dysfunction and the absence of plausible alternative explanations. Alternatively, possible MND is indicated by the presence of criteria necessary for Definite or Probable MND except that other primary etiologies cannot be ruled out. The specific diagnostic criteria for Possible MND are listed below:

1. Presence of a substantial external incentive [Criterion A]
2. Evidence from Self-Report [one or more of Criteria C1-C5]
3. Behaviors meeting necessary criteria from group C are not fully accounted for by Psychiatric, Neurological, or Developmental Factors [Criterion D]

Or
Criteria for Definite or Probable MND are met except for Criterion D (i.e., primary psychiatric, neurological, or developmental etiologies cannot be ruled out). In such cases, the alternate etiologies that cannot be ruled out should be specified.

Explanation of Criteria

Criteria A: Presence of a substantial external incentive
At least one clearly identifiable and substantial external incentive for exaggeration or fabrication of symptoms (see definition) is present at the time of examination (e.g., personal injury settlement, disability pension, evasion of criminal prosecution, or release from military service).

Criteria B: Evidence from neuropsychological testing
Evidence of exaggeration or fabrication of cognitive dysfunction on neuropsychological tests, as demonstrated by at least one of the following.

1. **Definite negative response bias.** Below chance performance \( (p < .05) \) on one or more forced-choice measures of cognitive function.
2. **Probable response bias.** Performance on one or more well-validated psychometric tests or indices designed to measure exaggeration or fabrication of cognitive deficits is consistent with feigning.
3. **Discrepancy between test data and known patterns of brain functioning.** A pattern of neuropsychological test performance that is markedly discrepant from currently accepted models of normal and abnormal central nervous system (CNS) function. The discrepancy must be consistent with an attempt to exaggerate or fabricate neuropsychological dysfunction (e.g., a patient performs in the severely impaired range on verbal attention measures but in the average range on memory testing; a patient misses items on recognition testing that were consistently provided on previous free recall trials, or misses many easy items when significantly harder items from the same test are passed).
4. **Discrepancy between test data and observed behavior.** Performance on two or more neuropsychological tests within a domain are discrepant with observed level of cognitive function in a way that suggests exaggeration or fabrication of dysfunction (e.g., a well-educated patient who presents with no significant visual-perceptual deficits or language disturbance in conversational speech performs in the severely impaired range on verbal fluency and confrontation naming tests).
5. **Discrepancy between test data and reliable collateral reports.** Performance on two or more neuropsychological tests within a domain are discrepant with day-to-day level of cognitive function
described by at least one reliable collateral informant in a way that suggests exaggeration or fabrication of dysfunction (e.g., a patient handles all family finances but is unable to perform simple math problems in testing).

6. Discrepancy between test data and documented background history. Improbably poor performance on two or more standardized tests of cognitive function within a specific domain (e.g., memory) that is inconsistent with documented neurological or psychiatric history (e.g., a patient with no documented LOC or PTA, multiple negative neurological investigations, and no other history of CNS trauma or disease consistently obtains verbal memory scores in the severely impaired range after a motor vehicle accident).

Criteria C: Evidence from Self-Report
The following behaviors are indicators of possible malingering of cognitive deficits, but their presence is not sufficient for the diagnosis. However, presence of one or more of these criteria provides additional evidence in support of a diagnosis of malingering. These criteria involve significant inconsistencies or discrepancies in the patient’s self-reported symptoms that suggest a deliberate attempt to exaggerate or fabricate cognitive deficits.

1. Self-reported history is discrepant with documented history. Reported history is markedly discrepant with documented medical or psychosocial history and suggests attempts to exaggerate injury severity or deny premorbid neuropsychological dysfunction (e.g., exaggerated severity of physical injury or length of LOC/PTA; exaggerated premorbid educational or occupational achievement; denial of previous head injury or previous psychiatric history).

2. Self-reported symptoms are discrepant with known patterns of brain functioning. Reported or endorsed symptoms are improbable in number, pattern, or severity; or markedly inconsistent with expectations for the type or severity of documented injury or pathology (e.g., claims of extended retrograde amnesia without loss of memory for the accident, or claims of loss of autobiographical information after mild head trauma without LOC).

3. Self-reported symptoms are discrepant with behavioral observations. Reported symptoms are markedly inconsistent with observed behavior (e.g., a patient complains of severe episodic memory deficits yet has little difficulty remembering names, events, or appointments; a patient complains of severe cognitive deficits yet has little difficulty driving independently and arrives on time for an appointment in an unfamiliar area; a patient complains of severely slowed mentation and concentration problems yet easily follows complex conversation).

4. Self-reported symptoms are discrepant with information obtained from collateral informants. Reported symptoms, history, or observed behavior is inconsistent with information obtained from other informants judged to be adequately reliable. The discrepancy must be consistent with an attempt to exaggerate injury severity or deny premorbid neuropsychological dysfunction (e.g., a patient reports severe memory impairment and/or behaves as if severely memory-impaired, but their spouse reports that the patient has minimal memory dysfunction at home).

5. Evidence of exaggerated or fabricated psychological dysfunction. Self-reported symptoms of psychological dysfunction are substantially contradicted by behavioral observation and/or reliable collateral information. Well-validated validity scales or indices on self-report measures of psychological adjustment (e.g., MMPI-2) are strongly suggestive of exaggerated or fabricated distress or dysfunction.

Criteria D: Behaviors meeting necessary criteria from groups B or C are not fully accounted for by Psychiatric, Neurological, or Developmental Factors
Behaviors meeting necessary criteria from groups B and C are the product of an informed, rational, and volitional effort aimed at least in part towards acquiring or achieving external incentives as
Additional considerations

1. Informed consent: In the process of obtaining informed consent prior to examination, clinicians should ensure that patients understand that a consistent high level of effort is required, and that any evidence of poor or inconsistent effort, or exaggeration or fabrication of dysfunction may be noted in resulting reports or other professional communications.

2. Differential diagnoses: If criteria for definite, probable, or possible malingering are met by a patient who is unable to appreciate the implications and consequences of his or her behavior (i.e., failure to meet Criterion D), but is instead responding to directions or pressure from others, the term “MND by proxy” may be considered. In cases where psychiatric, developmental, or neurological disorders are the primary cause of feigned cognitive deficits, then a diagnosis of “feigned cognitive deficits secondary to [specify psychiatric/ developmental/neurological disorder]” may be considered.

3. Ruling out malingering: No psychological test has perfect negative predictive power. Therefore, one cannot automatically conclude that a patient is not malingering if they obtain “passing” scores on measures designed to detect exaggerated or fabricated deficits. Patients who attempt to malinger may exaggerate or fabricate symptoms from a variety of different domains (e.g., anxiety, mood, memory, or language) and present with varying degrees of sophistication. Similarly, failure to meet the proposed criteria for malingering does not constitute conclusive evidence that a patient is not malingerers.

4. Reliability, validity, and standardized administration of diagnostic measures: In order to meet Criteria B, tests or indices should have adequate reliability and validity, test data should be obtained through standardized procedures under adequate testing conditions, and norms referenced should be applicable to the patient. Forced-choice measures are unique in that they may be excepted from the requirement that scores be norm referenced (i.e., raw scores can be “standardized” by referencing random response distributions). Clinicians need to be well aware of the positive and negative predictive power of any signs, symptoms, or test scores that inform the diagnostic process (see Derogatis & Dellapietr, 1994; Elwood, 1993; Lindeboom, 1989; Meehl & Rosen, 1955). Although psychometric data are relied upon heavily for a diagnosis of malingering, current psychometric methods and instruments are in a relatively early stage of development. Most current measures or indices of exaggeration or fabrication are experimental and lack adequate normative data. Therefore, scores from such instruments should be interpreted with due caution. Test developers and publishers are strongly encouraged to ensure that their products meet established standards for reliability and validity (American Psychological Association, 1985, 1986, 1992).

5. Individual differences: Clinicians must be cognizant of cultural differences, level of acculturation, and demand characteristics of the examination, and how these factors may influence patient performance.

6. Prior patient behavior: A documented or self-reported prior history of malingering, functional findings on medical examination, or sociopathic behavior may support a diagnosis of malingering, but these are neither necessary nor sufficient for diagnosis. Similarly, although uncooperativeness, resistance, or refusal may be associated with malingering, these behaviors are not evidence of exaggeration or fabrication.

7. Clinical judgement: Many of the malingering criteria require some degree of expert clinical judgement. Expert clinical judgement is (a) an opinion about the nature and causes of specific behaviors in the absence of definitive data, (b) based on an objective evaluation of all obtainable data relevant to the particular case, and
(c) supported by the weight of empirical research relevant to the behaviors in question.

8. Self-reported symptoms: The scope of this paper does not permit a review or listing of all factors to consider when evaluating patient self-report in the context of documented history [See Reynolds (1998) for a list of suggested records to review for any litigation case and a concise review of research about congruence of self-reports with known sequelae of an injury]. However, clinicians should not rush to judgement about intent when self-reports are not congruent with other data. Special care should be taken to distinguish deliberate from non-deliberate misattribution or exaggeration of deficits. Patients may become highly sensitized (particularly in medical-legal settings) to any cognitive failings and it is possible to falsely attribute pre-existing symptoms to an accident, report a higher than actual level of premorbid function, catastrophize or over-report current symptoms, or have difficulty reporting symptoms precisely, without intending to deceive. Clinicians should be cognizant of the literature on baserates of neuropsychological symptoms in the general population (see Gouvier, Hayes, & Smiroldo, 1998 for a recent review). An inability to provide an accurate history or accurately gauge current level of cognitive function may be symptomatic of legitimate brain dysfunction. The task of judging the veracity of reported symptoms is most difficult when significant injuries are documented. Often, there are no objective data on day-to-day functioning that can be compared to report symptoms for evaluating veracity.

Contrasting Points of View, Caveats, Recommendations, and Conclusions

The validity of mainstream clinical conceptualizations of malingering (e.g., DSM-IV) has not gone unquestioned. Erickson has argued that “the diagnosis of malingering is a weak diagnosis of exclusion that serves to justify the denial of treatment and benefits,” and that “were it not for some medicolegal expectations, we could do without the diagnosis entirely” (Pankratz & Erickson, 1990, p. 381). In a similar vein, Rogers and Cavanaugh (1983) question “traditional ‘moralistic’ conceptualizations of malingering,” offering as a counterpoint, an “adaptational model….in which the malingerer perceives an adversarial context and chooses feigning on the basis of likelihood and expected utility” (Rogers 1990b p. 182). Although we disagree with Erickson’s call for the abolition of malingering as a diagnostic entity, he correctly notes that such diagnoses may have drastic consequences for patients, including the denial or termination of treatment or support. This is especially problematic in cases where exaggerated or fabricated deficits co-exist with real impairments or disorders that may be amenable to treatment. The points raised by Rogers and Cavanaugh are also well taken; clinicians need to carefully consider whether malingering represents a unique response to unusual and often trying circumstances, or behavior symptomatic of sociopathic tendencies or personality. However, these considerations do not obviate the need for a diagnostic category capturing volitional exaggeration or fabrication of deficits for the purpose of obtaining an external incentive.

We expect that some clinicians will be concerned about the role of clinical judgment in the proposed diagnostic criteria. We share this concern, and acknowledge that reliance on clinical judgements about volition and intent may constitute a serious threat to the reliability and validity of the proposed criteria, especially as impacted by differences in training and experience. Nevertheless, the essence of clinical diagnosis is expert judgement in the absence of a definitive test, and malingering is no different from other clinical diagnoses in this respect. Therefore, well-trained clinicians in possession of an adequate spectrum of reliable and valid data need not refrain from drawing inferences about volition and intent. In addition, the proposed criteria do provide substantial guidance to assist in making judgements. As delineated in Criterion D, when Criterion A (incentive to malinger) is met, then patient behaviors consistent with exaggeration or fabrication are most probably volitional unless the assessment turns up convincing evidence to the contrary. This discussion touches on an essential issue in medicolegal neuropsychological assessment that has heretofore received insufficient discussion: does the burden
of proof rest on demonstrating that deficits are real or on demonstrating that they are malingered? Should adequate effort directed to good performance always be assumed unless otherwise demonstrated? Decisions about intent are likewise arrived at through a process of elimination. In cases where potential motivating factors listed in Criterion A are present but other possible motivations for exaggeration of fabrication exist, such as a desire to clearly communicate distress, it will rarely be possible to apportion intent. In such circumstances, however, it makes little sense to assume that a patient was not motivated by factors listed in Criterion A, and therefore, a diagnosis of at least possible malingering should be entertained if other necessary criteria are met.

If the practice of clinical neuropsychology is facilitated by the continual development of a categorical nosological system, then some label is required as a descriptor for behavior indicative of volitional exaggeration or fabrication of deficits for the purpose of obtaining financial rewards. Although “malingering” is the currently accepted label for this behavior, many psychologists appear to be reluctant to use the term, perhaps due to the dire consequences associated with false-positive diagnostic errors. An example of this conflict can be found in recent papers on the application of ethics code to neuropsychological practice. Binder and Thompson (1994) recommend that “in some cases of suspected malingering it is appropriate to merely comment upon the invalidity of the testing and make no diagnosis (p. 40)” but also assert that “although a diagnosis or recommendation may psychologically distress or financially damage a patient, clinicians strive for accuracy of diagnosis. (p. 41)” Similarly, Reynolds (1998) acknowledges that “as clinicians and health care providers, we are reluctant to make such judgements of our fellow human beings”, (p. 263)“ but nevertheless asserts that when malingering is considered likely, clinicians “must step up and make what is an emotionally charged, personally difficult call.” (p. 281) Although it is clearly prudent to defer diagnoses when findings are ambiguous – including some cases that meet proposed criteria for possible or perhaps even probable malingering – such circumstances should not be taken for license to shy away from listing and discussing the most likely explanations for ambiguous, invalid, or unreliable test results. Psychologists are obligated to report their findings – including their best clinical judgement about the nature and extent of any conditions affecting the validity of test results – as unambiguously as possible (American Psychological Association, 1992). Consistent with the APA guidelines, euphemisms or descriptors such as “poorly motivated” or “poor effort” should not be used as synonyms for malingering as persons who malingering may be highly motivated to appear realistically impaired, and expend a significant amount of energy in doing so. Similarly, it is technically incorrect and possibly misleading to refer to symptom validity tests and most other measures of response bias, exaggeration, or fabrication as measures of “effort” or “motivation”, as these tests do not directly measure the motivation behind behavior or the level of effort expended. Some clinicians may feel that because they will rarely, if ever know about volition and intent with certainty, definite malingering can never be diagnosed. We disagree with this perspective, but acknowledge that such differences can be settled only by a comprehensive program of research. Some clinicians may be reluctant to give a diagnosis of possible, probable, or definite malingering if there are also probable legitimate cognitive deficits, but we agree with Reynolds (1998, p. 263): “There is no need for continuing debate over whether the term [malingering] includes those with legitimate injuries who choose to exaggerate them. It does include the latter under the category of malingers however harsh this seems.” If psychologists collectively determine that the pejorative connotations associated with the term malingering preclude objective application in legal or other arenas, a new term could be coined, as happened when formal diagnostic labels such as idiot and moron were dropped from psychiatric nosology because of the pejorative colloquial connotations these terms acquired. However, this would probably be a
short-term solution, as any new term brought in to replace malingering will likely become just as unpalatable.

The proposed criteria for MND were designed to balance specificity with flexibility. In particular, we attempted to include most possible sources of relevant data, and to consider the relative and cumulative weight of specific kinds of data. Nevertheless, every case is unique, and no set of criteria can cover every possible set of data and circumstances. Thus, the proposed diagnostic criteria are not intended for use in a reflexive or inflexible manner. The clinician must use the criteria in an integrative manner, recognizing that not all patients will be easily classified, and that in some instances there may be adequate justification to disagree with a diagnosis suggested by rigid application of the criteria to the available data. The appropriate approach is to treat malingering in the same manner as any other “disorder”: as a diagnosis to be arrived at or rejected after a comprehensive evaluation.

To conclude that a person is malingering, one must rule out the alternatives. A thorough consideration of differential diagnoses is required. Careful consideration of the consequences of diagnostic error is also required. Clinicians need to keep well in mind the limitations of assessment methodology and the cost of false positive errors. A “reasonable doubt” strategy should always be applied to decisions about the probability that a patient is malingering. Clinicians also need to be aware that diagnostic qualifiers such as possible or probable may be easier to use in research than clinical settings due to the difficulty of applying or conveying them in venues where discrete diagnoses are preferred (e.g., the courtroom). No criteria can be perfect, and diagnostic errors are bound to happen.

One area that has not been adequately addressed to date is the establishment of a consensus in neuropsychology about which category of error (false-positive vs. false-negative) is preferable when diagnosing malingering. Reynolds (1998) points out that the answer involves “moral, social, and perhaps even constitutional values that should be the subject of policy debates,” and concludes that until such time as a consensus is reached “we should present our case for diagnosis, its basis, its philosophy (conservative or liberal), revealing any personal biases and let the litigators do their job.” (p. 283).

Although the proposed criteria were designed to be comprehensive, unambiguous, reliable, valid, and practical as possible, we expect that field-testing and other feedback may lead to modifications that improve reliability and validity. Some readers will no doubt disagree with our approach to the ontological and epistemological issues involved in diagnosing malingering. We look forward to feedback and discussion, and encourage interested readers to submit commentary to The Clinical Neuropsychologist.

We close by noting that whereas considerable effort has been expended in recent years on the development of methods for detecting malingering, only a limited amount of research effort has been expended on the development of methods for predicting, preventing, and treating malingering. We strongly encourage clinicians and researchers to look beyond the mechanics, pragmatics, and ethics of detection and diagnosis, and begin systematic examinations of the individual and environmental causes of malingering.

REFERENCES


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