Content Validity of the Psychosis Subscale of the Structured Inventory of Malingered Symptomatology (SIMS)

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Abstract: Background: The Structured Inventory of Malingered Symptomatology (SIMS) is often used to reject the insanity defense or also insurance claims of survivors of various accidents. The SIMS is used not only in the USA, Canada, and other English speaking countries, but also elsewhere in its German and Spanish translations. The present study examines the content validity of the Psychosis subscale of the SIMS, i.e., items described by the test author and also by the test publisher as inconsistent with genuine psychosis and marketed as a “validated” instrument for detection of malingering. Method: Three clinical psychologists and three clinical psychiatrists, each with more than 35 years of experience, including with severely ill psychotic patients, examined all 15 items of the SIMS Psychosis subscale to evaluate if these items (a) represented possible symptoms of true psychosis, or (b) would only be endorsed by malingerers, never by truly ill patients. Results: All six clinicians agreed that any of the 15 items could, in fact, be endorsed by a truly psychotic patient. The inter-rater agreement was 100%. The items have no reasonable potential of differentiating between malingerers and patients with psychosis. Six items appear to refer to auditory hallucinations (voices), six to delusions, and the others may imply mere erroneous ideation. Conclusions: The Psychosis subscale lacks in content validity: this is consistent with diagnostic failure of the SIMS, in a recent study by another team, to statistically differentiate between patients with schizophrenia and malingerers. The SIMS is a pseudopsychological test.

Keywords: Psychosis, Schizophrenia, Malingering, Content Validity, SIMS

1. Introduction

Glenn Smith, during his years as a psychology student in Missouri, had developed the Structured Inventory of Malingered Symptomatology (SIMS) [1]. The test is now frequently used in clinical assessments within legal contexts, particularly in “psychological” evaluations of malingering of applicants for insurance benefits following injuries in a workplace or in car accidents. Its popularity with some “psychologists” is perplexing to true scientists and experienced clinicians because a careful perusal of the SIMS reveals that this test includes almost no items with any reasonable capacity to differentiate between legitimately ill medical patients and malingerers. Instead, the SIMS items appear to list primarily various legitimate medical symptoms [2].

For example, a study in early 2019 by Cernovsky, Ferrari, and Mendonça [2] examined the overlap in the item content between the SIMS and the scales used for the assessment of
the post-concussion and whiplash syndrome. The post-concussion syndrome involves difficulty concentrating, memory and concentration problems, dizziness, sleep difficulties, depressive symptoms, headaches, tinnitus, etc. The post-whiplash symptoms include problems with balance, hand tremor, instances of impaired muscular control over limbs, tingling, numbness, or loss of feeling in some of the limbs, etc. More than 50% of the 75 SIMS items are those that could be endorsed legitimately by patients who experience symptoms within the post-concussion whiplash spectrum. The SIMS is used particularly often by psychologists contracted by insurance companies in litigations in which the legitimate insurance claims by injured patients with post-concussion and whiplash are denied. When patients report their legitimate post-concussion-whiplash symptoms on the SIMS, each of these reported symptoms very illogically counts one point towards the diagnosis of malingering, see details in Cernovsky et al. [2]. Patients with a score above 14 points are falsely diagnosed as malingerers in the legal context. The more of such legitimate post-concussion-whiplash symptoms are experienced by the patient, the more likely is he or she to be misclassified as a malingerer [2]. This professional practice is widespread and now proliferates also in other countries after German, Spanish, and Italian translations of the SIMS have become available.

A brief perusal of SIMS items [3] indicates that many of them deal with issues such as insomnia, fatigue, depression, and memory problems as legitimately reported by post-concussion and whiplash patients (e.g., items “32. I have trouble sleeping,” “47. I am depressed all the time,” “27. I have difficulty remembering the day of the week,” “15. The major problem I have is with my memory,” and “52. I do not seem to have the energy I used to have.”). The SIMS even includes an item descriptive of tinnitus (Item “44. There is a constant ringing in my ear.”), even though tinnitus is reported frequently by whiplash patients (see Kreutzer et al. [4]).

Even some lay persons who saw the recent film “Concussion” dealing with the work of the brilliant neuropathologist Bennet Omalu [5, 6], a Nigerian immigrant scientist in the USA, may realize that this “malingering test” is suspect and diagnostically misleading if used on survivors of car accidents due to its inclusion of items descriptive of legitimate neurological injuries or symptoms, items, even such as “My major problem is that my brain is injured.”

Glenn Smith, the author of the SIMS, reports that he selected his 75 SIMS items via the following rating procedure: “nine licensed clinical psychologists were asked to classify each of the initial items into different categories of pathology (psychosis, affective disorder, memory disturbance, neurologic impairment, low intelligence, another category, some combinations of these categories” (see Widows and Smith [7], page 21). Only the 75 items on which at least two-thirds of the raters agreed were included in the SIMS. It seems that the instructions to the raters were presumably misunderstood by the nine raters as a task of assigning legitimate medical items to the five diagnostic categories. Instead of items meant to detect malingering, the SIMS consists almost exclusively of items listing legitimate medical symptoms.

Neither the choice of SIMS items nor its “validation procedure” would even partly satisfy the test development standards of the American Psychological Association (APA) [8] for tests meant to detect malingering. The APA standards would require a validation procedure that would compare verified malingerers to real medical patients with legitimate symptoms. Instead, Smith compared responses to his 75 item questionnaire by healthy undergraduate students, who were instructed to fake illness, to responses of healthy undergraduates instructed to respond honestly [7]. This is a pseudovalidation procedure that defies scientific principles of test development. Hence, the test has never been properly validated. Truly scientific studies of SIMS scores of real patients with legitimate symptoms are almost non-existent. In fact, the meta-analytic review of SIMS by van Impelen’s team [9] indicates diagnostic failure when SIMS was used on real patients with schizophrenia or on those with low intelligence.

Neither the SIMS author nor the SIMS publisher mention such failures and fatal flaws of the SIMS. For example, as of July 18, 2019, the website of the SIMS publisher, Psychological Assessment Resources (PAR) of Florida still claimed that the SIMS test “demonstrates sensitivity, specificity, and efficacy across both simulation and known-groups designs with honest responders, psychiatric patients, and clinical malingerers.” Similarly, the SIMS manual by Widows and Smith [7] informs the reader that the SIMS “has been validated with clinical forensic samples, psychiatric samples, and nonclinical samples.”

Furthermore, the SIMS manual by Widows and Smith [7] (see page 15), describes SIMS items as descriptive of “atypical, improbable, inconsistent, or illogical symptoms,” that would be “highly atypical in patients with genuine psychiatric or cognitive disorders…”

Scientists in the field of psychoses may feel puzzled by such inappropriate claims after reviewing the item content of the Psychosis subscale of the SIMS because this subscale appears to list many common psychotic symptoms. This SIMS subscale contains 15 True-False items and its cutoff is > 1 point, with each item counting one point towards the diagnosis of malingering psychosis, see the full text of the subscale in Table 1.

**Table 1. Item text of the psychosis subscale of the SIMS.**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>Item Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>I believe that an individual's phone number is not randomly assigned but is God's way of determining one's salvation.</td>
</tr>
<tr>
<td>8</td>
<td>I have noticed that my shadow dances wildly even though I remain still.</td>
</tr>
</tbody>
</table>
To our knowledge, the SIMS, including its Psychosis subscale, is presently still used by some psychologists in Ontario in evaluations of malingering, and probably also by many in other countries, including the USA, Germany, and Spain.

Given the various concerns about the overall validity of the SIMS and in particular of its Psychosis subscale, the present study examined whether or not experts with clinical experience of several decades in the field of psychoses would agree, after inspecting carefully the 15 items of SIMS Psychosis subscale, with claims by Widows and Smith [7] that all these items are indeed “highly atypical in patients with genuine psychiatric or cognitive disorders.”

Thus, the present study relied on professionals in clinical psychology & psychiatry, each with more than 35 years of clinical experience, including face to face clinical work with patients experiencing a psychosis. The task of these experts was to evaluate the usefulness of the 15 items of the Psychosis subscale with respect to their potential to detect malingering. If these experts would indicate that the content of these 15 items is descriptive of legitimate psychotic symptoms rather than indicative of malingering, then the SIMS Psychosis subscale has no reasonable potential for differentiating malingers from patients with real psychotic illness.

### 2. Method

Three clinical psychologists and three clinical psychiatrists, each with more than 35 years of clinical and scientific experience, including clinical work with severely ill psychotic patients, participated. They were instructed to read carefully all 15 items of the SIMS Psychosis subscale and evaluate if these items (a) represented possible symptoms of true psychosis, or (b) would only be endorsed by malingers, never by truly ill patients. The present study aimed at establishing the statistical percent of agreement among the six raters for each of the 15 items. In addition, spontaneous comments by these 6 experts were recorded on the psychopathological content of the scale and their experiences with symptoms described in these items.

### 3. Results

#### 3.1. Expert Ratings

As already explained, the 15 items of the SIMS Psychosis subscale developed by Glenn Smith are listed in Table 1. Each of those, if endorsed as “True” by the patient counts one point towards the diagnosis of malingering and the cutoff is $> 1$ point. Patients endorsing 2 or more items are classified by the SIMS as “malingering a psychotic illness.”

All six clinicians in the present study agreed that all of the 15 items, in fact, have some potential to be endorsed by at least some truly psychotic patients, e.g., those with schizophrenia, given the presence of delusions, thought disorder, or hallucinations. The initial intent was to tabulate the percent of agreement among these six raters, however, the agreement was 100% so no statistics were calculated. The complete agreement among the raters indicates that none of the 15 items of the SIMS Psychosis subscale has reasonable potential of differentiating between malingers and patients with psychoses. The Psychosis subscale lacks in content validity.

#### 3.2. Comments by the Raters

One of the raters (Dr. Ferrari), a clinical psychologist, summarized his impressions of the SIMS Psychosis subscale as follows: “Several of those items seem to be very consistent with psychosis—the only question is whether, and under what conditions, they would be endorsed. In the course of an adequately undertaken interview, or with a client with whom one has spent enough time to achieve some level of trust, items 28, 31, 38, 48 and 62 seem to me all consistent with Schneider’s first rank symptoms [10] of schizophrenia.” “The rest are unusual, but could idiosyncratically occur in any experience of psychosis, although would not be generally endorsed by most people suffering a psychosis.” He also pointed out the importance of a good therapeutic alliance with the patients who experience such symptoms, otherwise the patients might avoid admitting to their subjective experience of these symptoms: “whether they acknowledge...”
3.3. Symptom Content of the Psychosis Subscale

Six of the 15 SIMS items (i.e., 40%) obviously refer to auditory hallucinations in the form of “voices,” see items 13, 38, 48, 57, 65, and 69.

Six other items (i.e., other 40%) deal with delusions or thought disorder, see items 3, 28, 31, 34, 42, and 51.

Items 8 and 10 imply possible psychotic misperceptions or misinterpretation of reality as in the thought disorder.

Item 62 deals with visions: unusual experiences of revelations/visions of morbid nature are occasionally, albeit rather rarely, reported by some patients with schizophrenia or mood disorder.

4. Discussion

None of the 15 items of the Psychosis subscale passed the expert scrutiny of experienced clinicians. All 15 items have some potential to be endorsed by patients who experience a psychosis.

Furthermore, the Item 28 “I believe that the government has installed cameras in stop lights to spy on me” might be also endorsed by some psychiatrically healthy persons because cameras have indeed been installed at some traffic lights to catch drivers who ran the red signal in some cities in the United States, Canada, Australia, New Zealand, the United Kingdom, and in Singapore.

In addition, some persons with expertise in elementary physics may point out, with respect to Item 8, that if standing still near a roadway with uneven surface in the dark at nighttime, the somewhat erratically moving headlights of an approaching car could make the person’s shadow appear to “dance wildly.”

Other authors, in particular van Impelen, Merckelbach, Jelicic, and Merten have already pointed out that some SIMS items “might tap into genuine psychopathology, notably items #15 (memory problems), #20 (head injury), and #44 (tinnitus)” (see van Impelen et al [9], page 1353).
declared as malingering. In some cases, a severely mentally ill person may be falsely declared as competent to stand trial, be denied treatment, and risk unfair incarceration, instead of being found not guilty by reason of insanity.

Noteworthy is an illustrative case history, reported by Glenn Smith in the SIMS manual [7] (pages 18-19), of a 20 year old African American college student, a male charged with robbery and malicious burning/destruction of an occupied dwelling by the use of explosives. At the time of the assessment, this patient had been hospitalized for one month in a forensic psychiatric unit and was referred for psychological evaluation to determine psychiatric diagnosis and criminal responsibility. His occupational history was unstable. He reported hearing “voices” since the age of 10 or 11, telling him to kill himself or others. In fact, he was seen at a hospital emergency room for superficial burns to his face four months prior to his incarceration. He reported command hallucinations telling him to light a puddle of gasoline on fire in order to burn himself. The SIMS manual [7] reports that this patient “obtained significant elevations” on the SIMS total score (20 points) and also on the Psychosis subscale (10 points). As already mentioned, the cutoff for the total SIMS score is > 14 and for the Psychosis subscale > 1 points, with each endorsed item contributing one point. Presumably in support of the SIMS (mis) diagnosis of this particular patient as a malingering, the SIMS manual [7] mentions that this patient “had demonstrated no response to a one-month trial of antipsychotic medication during his inpatient hospitalization.” In clinical experience, severely ill patients with psychotic symptoms related to schizophrenia might often need more than 6 months to demonstrate a desired improvement on excellent antipsychotics such as clozapine. This patient had been declared by the SIMS as a “malingering.” Such stigma usually prevents patients from accessing proper medical treatment over future years, unless properly re-diagnosed.

The SIMS manual [7] also indicated that the diagnosis of malingering was supported by this patient’s scores on the Structured Interview of Reported Symptoms (SIRS) [14] and on the Personality Assessment Inventory (PAI) [15], however, these tests are not adequately suited for diagnosing psychotic patients in an acute episode of illness. For example, a meta-analytic study of the SIRS by Green and Rosenfeld [16] concluded that “genuine patient samples were significantly more likely than nonclinical samples to be misclassified as feigning.”

The SIMS is not the only “psychological test” of malingering in a widespread but erroneous use by psychologists, especially in insurance evaluations of patients with injuries such as those in post-concussion-whiplash spectrum. A recent study by Ferrari’s team [17] dealt with the tests developed by Paul Green: the Green’s Medical Symptom Validity Test [18] and Green’s Non-Verbal Medical Symptom Validity Test [19]. Green’s tests rely on measuring the effort exhibited by the patient on test tasks, i.e., the degree of engagement in the test taking. Scores within the category of poor effort are interpreted as indicative of malingering. Green’s tests may be useful on diagnostic groups for which they were validated, but not on patients for which no adequate validation study in compliance with APA standards for the development of psychological tests [8] was carried out. In particular, consistently with APA requirements, the patients with severe symptoms in the post-concussion-whiplash spectrum should never be evaluated with these tests unless a proper validation on that diagnostic group is completed. As stated by Ferrari’s team [17], the “Pain, insomnia, post-concussion syndrome, and fatigue are likely to jointly interfere with these patients’ ability to exert sustained effort and consistent attentional focus on the ‘effort tests’ such as Green’s.” High levels of these symptoms in post-MVA patients are likely to cause Green’s test to misclassify many as malingerers, thus leading to denials of their insurance claims for treatment and for other legally owed compensation.” Already in 2009, the American Academy of Clinical Neurology published a consensus statement to indicate that scores on “effort tests” can be confounded by factors such as fatigue (see Heilbronn, Sweet, Morgan, Larrabee, et al. [20], page 1100).

The SIMS and the Green’s tests fall into the general psychological category of Symptom Validity Tests (SVT). The SVTs include other neuropsychological tools such as the Test of Memory Malingering (TOMM) [21], the Word Memory Test (WMT) [22], the Bremer Symptomvalidierung (BSV) [23], and the Amsterdam Short-Term Memory Test (ASTM – Schagen et al 1997, Schmand 2005) [24, 25]. An empirical study of these four SVTs by Thomas Merten, Linda Bossink, and Ben Schmand [26] concluded that cognitive impairment may significantly interfere with SVT performance. This makes it problematic when these SVTs are used on survivors of car accidents who report symptoms in the post-concussion-whiplash spectrum, or war veterans who experienced various degrees of cerebral concussion, and even on forensic patients many of whom underwent repeated concussions in physical fights. Merten’s team concluded that more research is “necessary to investigate how performance in SVTs is related to cognitive functioning in populations of severely impaired patients.” [26]

The Test of Memory Malingering (TOMM) [21] has enjoyed a particularly wide acceptance among neuropsychologists. The TOMM was developed by Tombaugh, a brilliant Canadian scientist, in 1996, and seems well designed (unlike the SIMS), yet it has been shown by Teichner and Wagner [27] that TOMM misclassifies excessively many patients with dementia as malingerers. The rates of false positives (i.e., of patients misclassified as malingerers) with TOMM’s various cutoffs ranged from 48% to 76%. Extensive studies would be needed before the TOMM is applied to patients with various degrees of the post-concussion syndrome, to avoid situations in which the potential misclassification of the patient as a malingerer leads to denials of therapy or leaves the patient in a situation where the living & financial conditions would hinder or jeopardize the recovery from concussion.

The SIMS is used widely by psychologists who neglected
to carefully inspect the text of its items and to verify if the description of its validation in SIMS manual [7] meets minimal standards of the American Psychological Association [8]. The SIMS has an iatrogenic impact unprecedented by any other psychological test in recent decades, in terms of denials of legally owed insurance benefits, treatments, or in the form of unfair incarcerations or stigmatizations. The long term effects of SIMS use are prone to seriously jeopardize the reputation of psychology as a credible science or an honorable profession. The widespread use of such flawed “validity measures” to falsely classify the patient as a malingerer is inconsistent with ethical standards of psychology as a profession. Some psychologists attempt to choose their words more cautiously, e.g., that the patient may be “exaggerating or magnifying medical symptoms,” or that the patient’s complaints are suspect and need further scrutiny, yet such statements give insurance clerks an adequate legal pretext to indefinitely delay approvals of treatments or other benefits. SIMS’s iatrogenic impact over the recent decade is comparable to the one of the infamous Tuskegee study of untreated syphilis [28] prior to 1970 in which medical professionals within the Public Health system deceived Afro-American patients about their diagnosis, failed to provide information about the availability of proper treatment, and neglected to inform the patients about long term consequences of the untreated disease. These professionals withheld the available therapy. In fact, the Tuskegee study was undertaken at the time when data on outcomes of untreated syphilis were already available from the decades before treatment was available, making such study scientifically unnecessary.

5. Conclusions

The SIMS has never been properly validated. An earlier review of its item content indicated that too many of its items list typical symptoms in the post-concussion whiplash spectrum and that the SIMS is very likely to falsely classify patients with such symptoms as malingerers. The present study focused on the Psychosis subscale of the SIMS: six raters with more than 35 years of clinical experience each reached a 100% agreement that none of the 15 items of this subscale is suited to reasonably differentiate between patients with psychosis and malingerers. On the contrary, all 15 items have a potential to be endorsed at least by some severely ill psychiatric patients such as those with schizophrenia. The SIMS, including its Psychosis subscale, is presently still used by many psychologists in several countries (including USA, Canada, Germany, and Spain) to falsely diagnose medical patients as malingerers. This constitutes a major infraction of professional standards because iatrogenic harm is caused to patients by denials of treatments, unfair incarcerations of the untreated but severely mentally ill in regular jails and penitentiaries, or by rejections of legitimate insurance claims. The SIMS is a pseudopsychological test, not a legitimate assessment instrument.

References


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