Health

Zürcher Hochschule
für Angewandte Wissenschaften

zh
aw

Malingering and symptom validity tests: Some remarks on conceptual and measurement issues

Peter Rüesch

Research Unit for Health Sciences, ZHAW Zurich University of Applied Sciences

Presentation held on the conference «Cohérence et incohérences Aide ou obstacle à l'appréciation médicale?» (Journée annuélle 2015 de l'ARPEM), Lausanne, 17.09.2015

Contents

1. Introduction, problem

2. Conceptual issues
   - *Conclusion 1*

3. Measurement issues
   - *Conclusion 2*

4. Final remarks

Problem

MONTAG, 6. JANUAR 2014 / 20MINUTEN.CH

Schweiz 11

«Misstrauensvotum gegen alle psychisch Kranken»

LUZERN. Die IV-Stelle Luzern bietet psychisch Kranke zu Hirntests auf. Betroffene kritisieren das Vorgehen scharf.

Die Zahl der psychisch bedingten IV-Renten steigt. Sie machen bereits 60 Prozent aller neuen Renten aus. Um ungerechtfertigte Gesuche aufzudecken und Kosten zu senken, setzt die IV-Stelle Luzern seit Anfang 2013 auf neuropsychologische Tests. Hat sie Zweifel an den Angaben eines Patienten, muss dieser unter Zeitdruck Denk- und Leistungstests absolvieren, um die Hirnfunktionen beurteilen zu können. Zusätzlich erfolgt eine Untersuchung mit Ableitung von Hirnströmen. 60 Fälle wurden schon überprüft – bei einer Mehrheit hatte der Patient übertrieben. «Gerade bei jungen Leuten erzielen wir Einsparungen», sagte Donald Locher, Direktor der IV-Stelle Luzern, in der «Zentralschweiz am Sonntag».

Hirnaktivitäten können mit speziellen Tests überprüft werden. KEYSTONE

SVP-Nationalrat Guy Parmelin, Präsident der Kommissionen für soziale Sicherheit und Gesundheit (SGK), hält eine schweizweite Einführung der Methode für prüfenswert. Beim Bundesamt für Sozialversicherungen begrüsst man «den Einsatz von Symptom- und Beschwerdevalidierungsverfahren».

Doch es gibt auch Kritik: «Ein Hirnscan für psychisch kranke IV-Beanträger – das ist ja fast wie ein Lügendetektor», sagt CVP-Nationalrätin Ruth Humbel. Von einem «Misstrauensvotum gegen alle psychisch Kranken» spricht Fredy Obrist von Equilibrium, einem Verein zur Bewältigung von Depressionen. Marta Bühler, Geschäftsleiterin des Netzwerks für Menschen mit einer psychischen Erkrankung Traversa, findet: «IV-Renten von einem solchen Test abhängig zu machen, ist Mumpitz.» Psychische Erkrankungen liessen sich nicht immer an Hirnströmen ablesen: «Sie haben auch viel mit Wahrnehmung und Empfindung zu tun.» DP

DAS SAGEN DIE USER

«Horrorvision wird langsam Realität»

Plus 55: Finde ich gut. Sollte überall gemacht werden, nicht nur in Luzern.

Ski Zoo Vreni: Es ist unglaublich erniedrigend, sich ständig als angeblicher Schmarotzer rechtfertigen zu müssen. Ich wäre dankbar, wenn es ein System gäbe, welches das Leid objektiv darstellt.

Kurt Wälti: Ich frage mich, was gegen diese Tests spricht. Eigentlich können nur Betrüger dagegen sein. Den Ehrlichen bestätigt es doch nur.

Leser: Was als Horrorvision bisher in Science-Fiction-Filmen zu sehen war, wird langsam Realität ... Gut, werde ich älter!

Samuel Würst: Die Resultate solcher Tests sind ja wohl kaum glaubwürdig und als Beweis halten sie schon gar nicht her.

Problem

- In recent years, the issue of the unintentional or deliberate abuse of the Swiss social security and social welfare systems has been raised repeatedly by politicians, the media as well as the public

- So called Symptom Validity Tests seem to offer a tempting tool to detect individuals who try to simulate illness in order to get social security benefits

- Although there is indeed a large variety of these tests available, research indicates that there are still substantial methodological, practical and ethical problems in the application of these instruments

Problem

- Scientific consensus on the assessment of malingering, 2009

The Clinical Neuropsychologist, 23: 1093–1129, 2009
http://www.psypress.com/tcn
ISSN: 1385-4046 print/1744-4144 online
DOI: 10.1080/13854040903155063

Psychology Press
Taylor & Francis Group

CE **AMERICAN ACADEMY OF CLINICAL NEUROPSYCHOLOGY CONSENSUS CONFERENCE STATEMENT ON THE NEUROPSYCHOLOGICAL ASSESSMENT OF EFFORT, RESPONSE BIAS, AND MALINGERING**

Robert L. Heilbronner, Jerry J. Sweet, Joel E. Morgan, Glenn J. Larrabee, Scott R. Millis, and Conference Participants[1]

During the past two decades clinical and research efforts have led to increasingly sophisticated and effective methods and instruments designed to detect exaggeration or fabrication of neuropsychological dysfunction, as well as somatic and psychological symptom complaints. A vast literature based on relevant research has emerged and substantial portions of professional meetings attended by clinical neuropsychologists have addressed topics related to malingering (Sweet, King, Malina, Bergman, & Simmons, 2002). Yet, despite these extensive activities, understanding the need for methods of detecting problematic effort and response bias and addressing the presence or absence of malingering has proven challenging for practitioners. A consensus conference, comprised of national and international experts in clinical neuropsychology, was held at the 2008 Annual Meeting of the American Academy of Clinical Neuropsychology (AACN) for the purposes of refinement of critical issues in this area. This consensus statement documents the current state of knowledge and recommendations of expert clinical neuropsychologists and is intended to assist clinicians and researchers with regard to the neuropsychological assessment of effort, response bias, and malingering.

Problem

- Recommendations for practitioners related to assessment of somatic symptoms
  - When assessing for non-credible somatic presentation, use multiple well validated measures covering domains of self-report, performance, and symptom validity
  - Carefully rule out plausible alternative explanations, other than malingering, for the somatic presentation, as it is critically important to keep false positives to a minimum. The clinician is encouraged to consider actuarial data along with clinical judgment of patient self-report
  - Keep current with literature that addresses non-credible somatic presentation

Malingering

- Malingering (definition, example of pain)
  - The intentional exaggeration or fabrication of cognitive, emotional, behavioral, or physical dysfunction attributed to pain for the purposes of obtaining financial gain, to avoid work, or to obtain drugs (incentive) (Bianchini et al, 2005)

- Criterias to detect malingering by Bianchini et al (2005)
  - A: evidence of significant external incentive
  - B: evidence of exaggeration or feigning of physical disability from clinical investigation
  - C: evidence of exaggeration or feigning of cognitive disability from neuropsychological testing
  - D: evidence of exaggeration or feigning of self-reported symptoms by the patient
  - E: meeting necessary criteria B, C, and D are not fully accounted for by psychiatric, neurologic, or developmental factors/disorders

Malingering

- Criterias to detect malingering by Bianchini et al (2005)
  - To establish a diagnosis of malingering criteria A and E have always to be met as well as least one other criteria (B-D)

Negative response bias

- Alternative concept to malingering - The effort of a client to feint the assessor by presenting imprecise or false answers or by the false demonstration of limited capacities (Merten, 2010)

- Appears as an inconsistency between the observed performance in a Symptom Validity Test (SVT) and the expected performance based on the self-reported symptoms of the client

Negative response bias

- Can appear in different contexts as they are

Fabrication of symptoms	Deliberate, reflected, purposeful feint of symptoms or false descriptions of symptoms in order to achieve an objective (e.g. disability pension)
Exaggeration/magnification	… of real symptoms in order to achieve an objective
Somatoforme & dissociative disorders	Group of mental disorders with impressive physical symptoms
Factitious disorder	Personality disorder (ICD F68.1): intentional production or feigning of symptoms or disabilities; the patient feigns symptoms repeatedly for no obvious reason and may even inflict self-harm
Other mental disorders	… in particular personality disorders resulting in a limited compliance of the patient
Situational factors	e.g. emotional athmosphere, setting of medical evaluation

Negative response bias

- How to distinguish between a response bias as the result of
  - a controlled and conscious action, or
  - a (mental) disorder

Diagnostic construct	Level of consciousness	Motivation of client behavior
Fabrication/exaggeration	deliberate, controlled ('conscious')	reflected, clear ('conscious ')
Factitious disorder	deliberate, controlled ('conscious')	unreflected, unclear ('unconscious ')
Somatoforme & dissociative disorders	unintentional, not controlled ('unconscious ')	Unreflected ('unconscious ')

Conceptual ambiguity

- Basic assumption
  - The more conscious and the more influenced by external incentives client behavior is...
  - ... the more probable symptom fabrication/exaggeration will occur

- Problem
  - Both constructs, i.e. consicousness and motivation of client behavior, are difficult to measure and to objectify
  - Their assessment is highly dependent on the subjective evaluation of the assessor

Conclusion 1

- Malingering and Negative Response Bias are ambiguous concepts

- The same client behavior (i.e. negative response bias) in a assessment setting can be either itself the result of a disorder or the result of the conscious aim to feint the assessor

- Therefore, the decision upon symptom fabrication/exaggeration needs a comprehensive medical evaluation and differential diagnosis in order to exclude alternative explanations of the observed client behavior

Measuring symptom validity

- Symptom Validity Test (SVT)
  - Standardized procedure to assess the credibility/plausibility of self-reported symptoms of a client
  - Instrument helping to detect malingering of symptoms
  - Broad variety of tests, e.g. cognitive effort tests, ability tests, disorder-specific inventories etc.

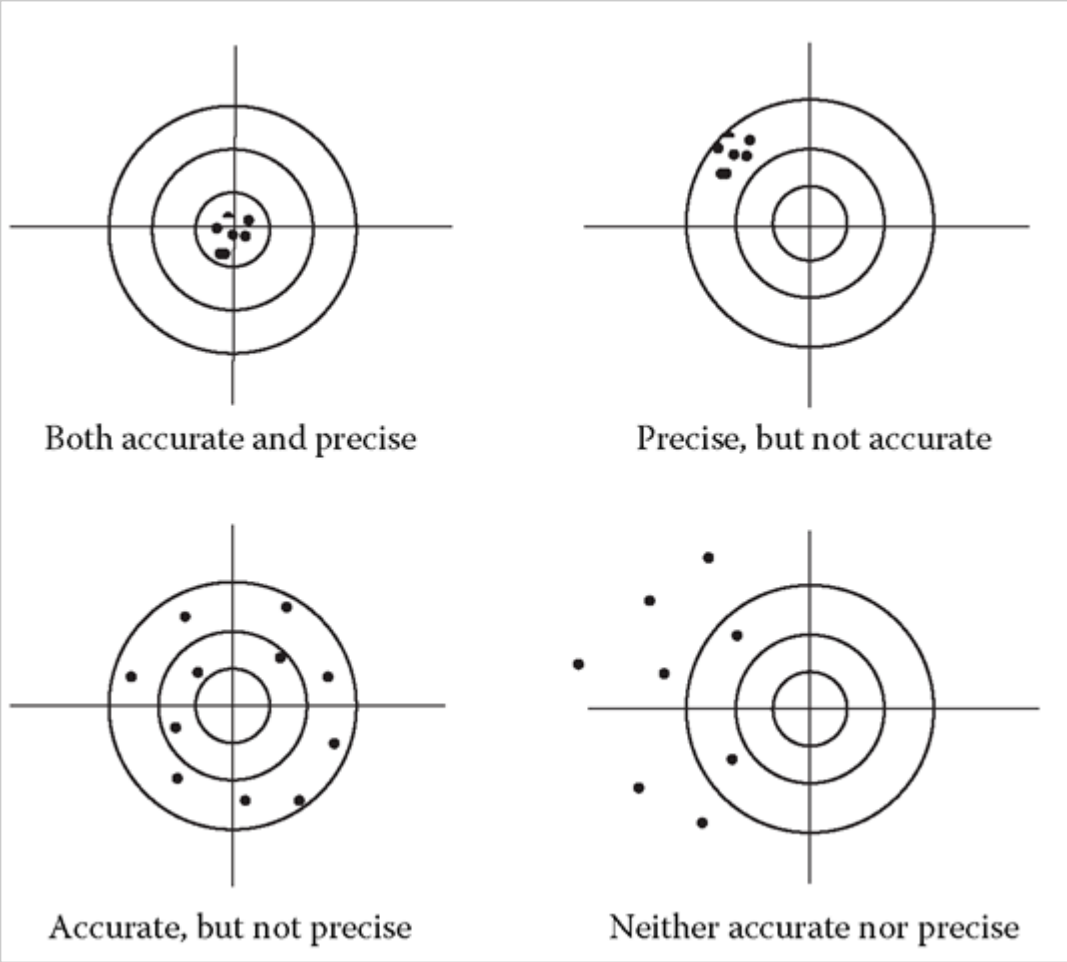
- Quality criteria
  - Same criteria for any kind of medical, psychological etc. test
  - Validity
  - Reliability
  - Objectivity

Quality criteria of testing

- Validity
  - A test should measure what it pretends to measure (e.g. a mathematical test whose results are highly dependent on reading competences wouldn't be sufficiently valid to measure mathematical competences)
- Reliability
  - A test should measure a specific construct/condition precisely. Its results should be reproducable and selective
- Objectivity
  - A test should produce identical results independently of the person applying it and of the setting of assessment

Accuracy of test results

- A test should measure a characteristic precisely and accurately



Accuracy of test results

- Important concepts

Test	Condition (e.g. breast cancer) observed (+)	not observed (−)
positive (+)	true positive (a)	false positive (b)
negative (−)	false negative (c)	true negative (d)

- Sensitivity: a/(a+c)
- Specificity: d/(b+d)
- Positive Predictive Value or precision (PPV)
- Negative Predictive Value (NPV):
- Accuracy: (a+d)/(a+b+c+d)

Sensitivity (true positive rate): probability of being test positive when disease present

Specificity (true negative rate): probability of being test negative when disease absent

PPV: probability of patient having disease when test is positive

NPV: probability of patient not having disease when test is negative

Accuracy: probability of true results (both true positives and true negatives) among the total number of cases examined

Accuracy of test results

- Important concepts

	Condition (e.g. breast cancer)	
Test	observed (+)	not observed (−)
positive (+)	true positive (a)	false positive (b)
negative (−)	false negative (c)	true negative (d)

- Sensitivity: a/(a+c)
- Specificity: d/(b+d)
- Positive Predictive Value or precision (PPV): a/(a+b)
- Negative Predictive Value (NPV): d/(c+d)
- Accuracy: (a+d)/(a+b+c+d)

Accuracy of test results

- Dependency on prevalence

	A		
	condition: prevalence=50%		
Test	+	−	Total
+	95	10	105
−	5	90	95
Total	100	100	200

Sensitivity=95%

Specificity=90%

Positive predictive value (PPV)=91%

Negative predictive value (PPV)=95%

Accuracy=93%

➡ Positive predictive value = probability, that a person with a positive test result really is affected by the wanted characteristic

Accuracy of test results

- Dependency on prevalence

	A			B		
	condition: prevalence=50%			condition: prevalence=1%		
Test	+	−	Total	+	−	Total
+	95	10	105	95	990	1085
−	5	90	95	5	8910	8195
Total	100	100	200	100	9900	10000
Sensitivity=95% Specificity=90% **Positive predictive value (PPV)=91%** Negative predictive value (PPV)=95% Accuracy=93%				Sensitivity=95% Specificity=90% **Positive predictive value (PPV)=9%** Negative predictive value (PPV)=100% Accuracy=90%		

➡ Positive predictive value = probability, that a person with a positive test result really is affected by the wanted characteristic

Accuracy of test results

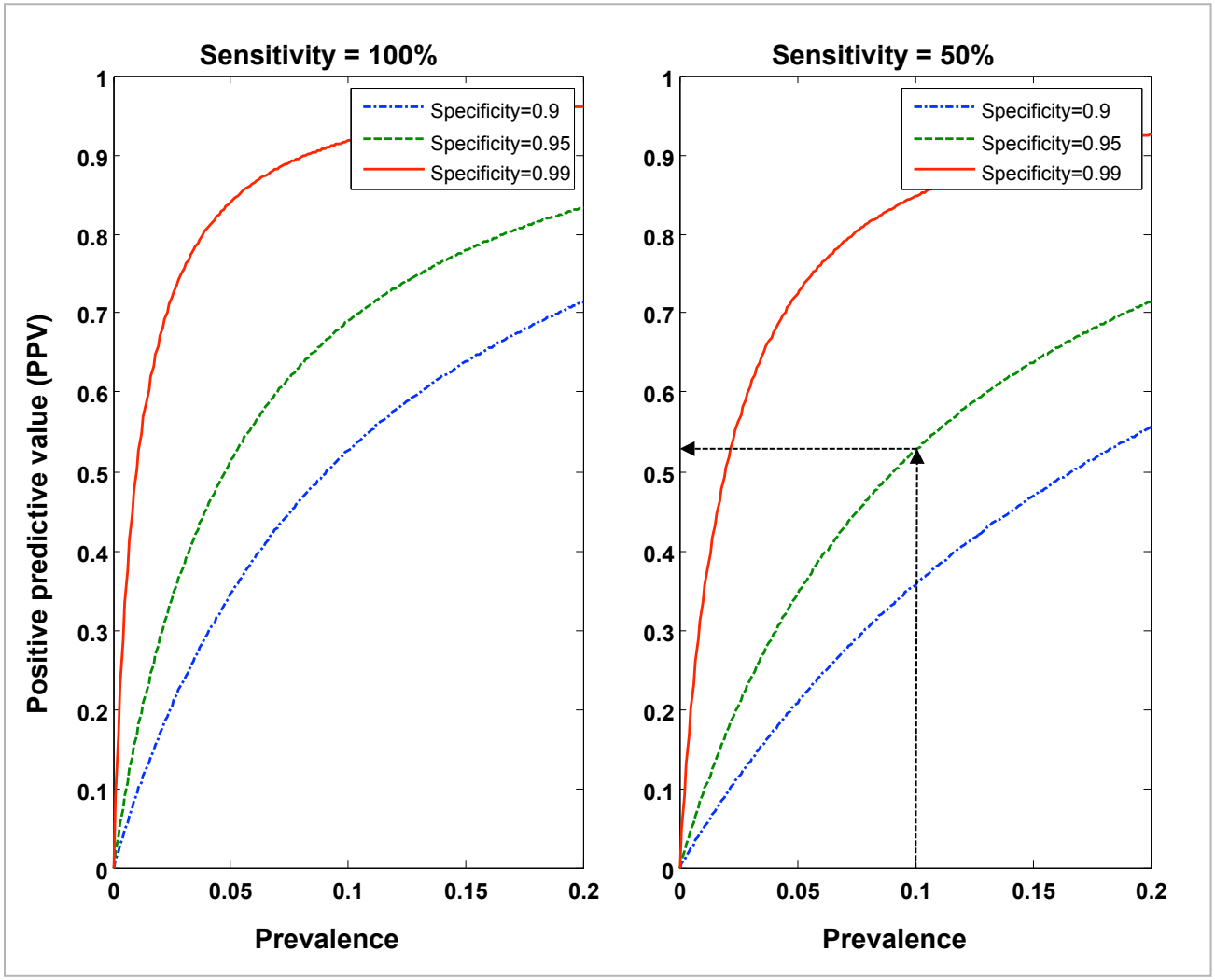
	A			B		
	condition: prevalence=50%			condition: prevalence=1%		
Test	+	−	Total	+	−	Total
+	95	10	105	95	990	1085
−	5	90	95	5	8910	8195
Total	100	100	200	100	9900	10000
Sensitivity=95% Specificity=90% **Positive predictive value (PPV)=91%** Negative predictive value (PPV)=95% Accuracy=93%				Sensitivity=95% Specificity=90% **Positive predictive value (PPV)=9%** Negative predictive value (PPV)=100% Accuracy=90%		

Case A: Assumed malingering prevalence in the population=50%
→ 91% of individuals positively tested with an SVT of 95% sensitivity and 90% specificity really are malingering

Case B: Assumed malingering prevalence in the population=1%
→ 8% of individuals positively tested with the same SVT as in case A really are malingering

Accuracy of test results

- Relationship of prevalence and PPV



Conclusion 2

- If the prevalence of malingering in a given population is low,
- … then even a very accurate symptom validity test would produce unreliable results on the probability whether a positively tested individiual really does malinger
- The true prevalence of malingering in the Swiss population is unknown. However a study by Ott, Bade und Wapf (2007) estimated a prevalence of 8-10% in the population of persons having obtained a disability pension
- Under these circumstances an accurate detection of malingering by an SVT would hardly be possible

Some final remarks

- SVT carry the risk of condemning unjustified persons as malingerers. It is difficult to quantify the risk (unkown prevalence of malingering)
- Therefore, SVT should be applicated carefully in consideration of their risks. The cannot replace a comprehensive medical evaluation based on evidence based guidelines
- However SVT can foster consistent and objective procedures for the examination of symptom validity. They may promote the definition and application of clear and transparent criteria for the detection of symptom fabrication or exaggeration
- Due to the often observed co-occurrence of negative response bias and psychopathological symptoms differential diagnosis of mental disorders is always indicated

Zürcher Hochschule
für Angewandte Wissenschaften

zh
aw

Thank you for your attention