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The Third European Symposium on Symptom Validity Assessment – Facts and controversies

Tercer Simposio Europeo sobre el Estudio de la Validez de los Síntomas - Hechos y controversias

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Overview

After being established as a must in the US and Canada, symptom validity assessment more and more becomes an important topic in European psychology and neuropsychology too. This is impressively reflected by a series of European symposia started four years ago in Würzburg (Germany), continued in London, Great Britain (2011), and now held in Würzburg again. A follow-up conference in Maastricht (2015) is already planned by the organizing International Academy of Applied Neuropsychology (IAAN).

The 3rd European Symposium on Symptom Validity, taking place 0n June 7-8, 2013, focused especially on current European developments and controversies and invited speakers from six Western Europe countries.

After a comprehensive overview of the state of the art and current developments by Dr. Thomas Merten (Vivantes Klinikum, Berlin, Germany), Program Chair Andrea Plohmann (Basel Switzerland) provided an in-depth look of an ongoing debate between neuropsychologists and psychiatrists in Germany and Switzerland on whether or not to use SVA in forensic psychiatric assessments. She contrasted common arguments against SVA with empirical evidence and facts invalidating them. Brechje Dandachi-FitzGerald (Maastricht University, The Netherlands) presented data from a survey study conducted by Prof. Rudolf Ponds, Dr. Thomas Merten, and herself among neuropsychologists from six Western European countries on the use of SVT. Results revealed that despite knowing about the amount of incredible symptom presentation and SV tests, European neuropsychologists still seem to rely mainly on their subjective clinical judgement. The first session was closed by Prof. Harald Merckelbach (Maastricht University, The Netherlands) by summarizing an impressive study, giving raise to the concern that the link between abuse severity and symptoms in victims of sexual abuse might be markedly expanded by negative response bias.

The afternoon session on selected assessment approaches was opened by Pablo Santamaria (TEA Ediciones, Madrid, Spain). He first reviewed the literature on the Structured Inventory of Malingered Symptomatology (SIMS) in different contexts and areas, ending up with recommendations for future research. According to his study, the SIMS could be useful in differentiating genuine pain patients from persons feigning low back pain and other medical complaints. Dr. Héctor González-Ordi (Complutense University of Madrid, Spain) supported this notion and emphasized the need of multidimensional assessment of negative response bias on the basis of data from a sample presenting with low back pain. The German speaking audience appreciated Dr. Stefan Lanquillon's (Psychiatric University Hospital, Basel, Switzerland) and Thomas Schmidt's (BG-Klinik Bermannstrost, Halle, Germany) presentation on an authorized German-language adaption of the Structured Interview of Reported Symptoms (SIRS), another instrument to detect symptom overreporting. It will be available as SIBB (Strukturiertes Interview Berichteter Beschwerden) and is currently being validated in Germany and Switzerland.

Dubious and colorful clinical and forensic cases of amnesia were presented by Dr. Marco Jelicic (amnesia as a side effect of medication), Prof. Maarten J. V. Peters (dissociative amnesia), Dr. Kim van Oorsouw (alcohol amnesia), and Prof. Rudolf Ponds (unconscious feigning). These speakers are all working at Maastricht University and Maastricht University Medical Center, respectively.

The meeting was rounded up with SVA topics, especially using the Word Memory Test (WMT), in mild head injury (Dr. Vicky Hall, West Mildlands, Great Britain), patients with dementia (Matthias Henry and Dr. Thomas Merten, Berlin, Germany), and memory clinic patients (Ben Schmand et al., University of Amsterdam, The Netherlands). These lectures discussed topics like false positive rates, genuine dementia profiles and the ability to predict dementia using the WMT. At the end, Andrea Plohmann presented first base rate estimates of performance validity in Switzerland that corresponded well with rates of insufficient effort reported in the literature. Peter Giger and Thomas Merten's poster on Swiss reference data for six symptom validity tests constituted a perfect complement. Another promising approach, focusing on the validity assessment of attention tests, i.e., variation of reaction times, was provided by Dr. Sebastian Bodenburg's poster.

Participants further could join workshops on either the application of Dr. Paul Green's (USA) symptom validity tests (WMT, MSVT, NV-MSVT, MCI) or a practical approach to assess symptom validity in psychiatric evaluations hosted by S. Lanquillon and Th. Schmidt.

The following abstracts of the contributions are published in the order of presentation. The authors agreed to the publication.

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Session 1

State of the art - Current developments

Moderation: Ben Schmand

Symptom Validity Assessment: Facts & controversies

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Symptom validity assessment (SVA) can be conceived as a success story of clinical and forensic neuropsychology and has shown a prolific development in the last two decades. In forensic contexts, where secondary gain is immanent, uncooperativeness and malingering may threaten the integrity of data so much so that no valid conclusions can be drawn from the test data. However, the same is true in a number of clinical contexts. In rehabilitative contexts, the problem of negative response bias has just started to gain attention and little published data is available. An introduction into current developments in symptom validity research and practice is given, with special emphasis on European perspectives. While Sweet expressed at the second SVA symposium in 2011 that SVT usage is no more controversial ("this is merely a pseudo-controversy in that the number of neuropsychologists who hold this viewpoint now represent a very small minority", Sweet & Guidotti-Breting, 2013), the same is not yet true for Europe. Besides unrelenting resistance against SVA from some physicians and psychologists, a number of more serious questions have more recently been raised that research will have to deal with in the future. There is still some way to go.

Common arguments against symptom validity assessment: The psychiatry debate in Germany and Switzerland

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Although psychiatrists in Germany and Switzerland are more and more explicitly asked to validate symptom presentation in independent medical examinations, they usually rely on clinical judgment to identify deceptive behavior rather than on empirically developed objective methods. Instruments allowing the detection of malingered or exaggerated emotional complaints (MMPI-2, PAI, SIMS) are rarely used in both countries. While Swiss psychiatrists recommend the use of symptom validity tests (SVT) at least in special cases of claimed mental disorders, a number of German psychiatrists started a campaign against the use of symptom validity tests. Others don't even know about the existence of SVT. However, most of the psychiatrists' arguments rely on poor knowledge of evidence-based forensic decision-making and false beliefs. These include questionable ethic and economic arguments against symptom validity assessment. To increase classification accuracy in forensic assessment in cases of claimed mental disorders, neuropsychologists and psychiatrists should cooperate instead of opposing each other.

Surveys among neuropsychologists in Europe and North America

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I will present data from a survey study conducted by Rudolf Ponds, Thomas Merten, and myself among neuropsychologists (N = 515) from six Western European countries (Germany, Italy, Denmark, Finland, Norway, and The Netherlands). We queried the respondents about the tools they used to evaluate symptom credibility in clinical and forensic assessments and other issues related to symptom validity testing. Overall, the results show that Western European neuropsychologists acknowledge the occurrence of noncredible symptoms and are knowledgeable of the various symptom validity tests (SVTs). However, they still seem to place too much weight on subjective clinical judgment. Consequently, the empirically validated methods are insufficiently used. Little consensus exists among neuropsychologists on how to instruct patients when they are administered SVTs and how to handle test failure. Comparisons will be made with the data obtained in similar surveys conducted in the United Kindom, the United States, and Canada.

Negative Response Bias in victims of sexual abuse

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We investigated whether negative response bias (i.e., over-endorsing symptoms) affects the connection between self-reported abuse severity and psychiatric symptoms. The first sample (n = 599) consisted of adults who had previously reported to a public commission that they had been witnesses to or victims of childhood sexual abuse by Roman Catholic Church representatives. The second sample (n = 1756) consisted of general population respondents who indicated that they had been victims of non-familial childhood sexual abuse. Both samples completed the Brief Symptom Inventory (BSI-18) items addressing abuse severity and items tapping into negative response bias. Adjusting for this bias by calculating partial correlations markedly attenuated the associations between abuse severity and psychiatric symptoms. It also reduced prevalence estimates for psychiatric caseness in the sample that previously had made reports to the inquiry commission. Thus, negative response bias might inflate the link between abuse severity and symptoms and should be monitored in surveys. Arguably, negative response bias is not a phenomenon that is exclusive to examinees undergoing neuropsychological evaluations.

Session 2

Selected assessment approaches

Moderation: Andrea Plohmann

The Structured Inventory of Malingered Symptomatology (SIMS) in civil forensic evaluations

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The Structured Inventory of Malingered Symptomatology (SIMS) has become a widely used screening measure for assessing malingering. A systematic search of the research literature identified 36 studies that had examined the ability of SIMS to identify overreporting in different context and areas. This presentation will give first a brief overview of the main results obtained in this literature review and some conclusions and recommendations for future research in connection with the SIMS. In the light of this literature review, the need for more research for the detection of feigned medical complaints will be discussed as well as the role of the SIMS as a useful screening measure due to its brevity and its

broad range of domains tapped (psychological, cognitive, and physical domains). Finally, the results of a study aimed to investigate the utility of SIMS in the detection of low-back pain feigning will be presented. The sample included four groups: a control group (n = 30), patients with bona-fide chronic low back pain (n = 45), patients suspected of low-back pain feigning (n = 48) and analogue low back pain-instructed participants (n = 20). The results indicate that the SIMS could be useful in detecting feigning in low back pain patients and push for the further development of research about the use of SIMS in the detection of feigned medical complaints.

German-language validation of the Structured Interview of Reported Symptoms (SIRS)

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Standardised testing for the authenticity of reported *cognitive* deficits has gained general acceptance in the gamut of methods for SVT. However, this is not yet the case for symptoms that have little to do with cognitive performance but fall in the field of *subjective experience and interpretation of our perceptions*, like emotions, auditory, and visual perceptions, confused reasoning or deluded ideation. While the debate is still in full swing as how to test such symptoms for their validity, there have been promising developments in the USA where the first tests designed specifically for that purpose were validated. The SIRS-2 (Structured Interview of Reported Symptoms) has been considered a gold standard regarding its specificity and predictive accuracy to distinguish between authentic and feigning respondents. An authorized German language adaptation of SIRS (SIBB – Strukturiertes Interview Berichteter Beschwerden) is currently subjected to validation studies in Germany and Switzerland.

This talk presents the practical aspects and challenges of these validation studies that aim to enrich the choice of reliable and valid tests for qualitative symptoms in German-speaking populations.

Multidimensional assessment of malingering in low back pain

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A multidimensional study on the symptom exaggeration in chronic low back pain patients is presented. The main aim is to detect discriminant patterns of malingered pain-related disability in order to develop a detailed protocol to the assessment of suspected malingering in cases with false or grossly exaggerated physical or psychological symptoms motivated by external incentives. Overall sample (N = 88) was divided in four groups: low back pain patients not involved in litigation (n = 15), low back pain patients involved in litigation (n = 23), analogue low back pain-instructed participants (n = 20), and control group (n = 30). Several medical and psychological tests were administered to participants, including medical complementary tests, self-efficacy and life personal self-report scales, the Oswestry Disability Index, the Chronic Disability Index of Waddell, the SF-36 Health Survey, the Structured Inventory of Malingered Symptomatology – SIMS, and the Minnesota Multiphasic Personality Inventory-2-Restructured Form – MMPI-2-RF. Data on groups effect size differences (Cohen's d) and predictive accuracy of the instruments used are presented. A protocol for the detection of malingering based on the differential profile scores between low back pain non-litigants and litigants is also addressed.

Session 3

Clinical and forensic cases of amnesia

Moderation: Harald Merckelbach

Offenders sometimes may have genuine crime-related amnesia: The case of the woman who ingested Zolpidem

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It is not uncommon for perpetrators of serious crimes to claim amnesia for their offences. Such claims have to be treated with caution, because many offenders are feigning their memory loss. In this presentation, a case of genuine crime-related amnesia will be described. A middle-aged woman wanted to take her own life and that of her daughter. She survived the suicide attempt, but her daughter passed away. The woman claimed to have a gap in her memory for several days, including the day of the tragic events. We studied her file, interviewed and tested her, but could not find any evidence for feigned memory loss. She started to use Zolpidem a few days before the fatal incident. Because this sleeping medication has well-documented amnesic side effects, we argued that Zolpidem probably caused her amnesia.

The man with the hammer: A clear case of dissociative amnesia? Or not?

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"I had blood on my hands, so I knew I had done something to my wife. I asked for an ambulance. We are in the middle of a divorce but are still living together. I don't know why I did it. My brain tilted. The situation is tense at home due to the divorce. I can't remember anything". This is a statement of a man who hit his wife with a hammer and afterwards tried to strangle her. Suspects awaiting trial often claim that they cannot remember important parts of their violent crimes. It is not unusual that forensic experts are tempted to accept such claims and interpret them in terms of dissociative amnesia. According to this scenario, heightened levels of stress implicated in violent crimes should interfere with memory. But what other explanations should be ruled out? In this presentation, I will describe the case of this man with a hammer that at first sight has all the contours of a dissociative amnesia case. However if one goes one step deeper and applies a multi-method approach on an individual basis, alternative interpretations become apparent.

The Czech ski murder: A case of alcohol amnesia

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Regularly, offenders claim that alcohol intoxication induced (partial) memory loss for the crime they committed. Research has demonstrated that alcohol does indeed undermine memory and that blackouts frequently are reported in the general population. Yet,

alcohol amnesia is also used as an excuse to minimize responsibility. This presentation will discuss the factors that should be taken into account when judging the veracity of a claim of alcohol amnesia. In the Czech ski murder case, three friends went on a skiing trip, resulting in the dramatic death of one of them. The two suspects claimed to have no memory of killing their friend. The police questioned whether the defendants had genuine amnesia for the crime or whether they feigned their amnesia. The pattern of memory loss, intoxication levels, and the results of memory and malingering tests will be discussed.

Losing memories in two days: Unconscious feigning?

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Mr. JG claimed that he suffers from severe and also unique memory impairments following a stroke, losing his memory every 48 hours, and having no autobiographical memory left. This lasted already 3 years. MRI shows hardly any brain damage. Smith et al., (2010) reported a more or less similar case (FL), stating that they found a 'unique case of autobiographical memory loss'. We tested JG for three types of amnesia (Kopelman, 2000): Organic, functional retrograde, and simulated retrograde amnesia, using the experimental procedures of Smith et al. To examine possible feigning, symptom validity tests were added to the test battery. JG, 2 controls, and 2 simulators were examined. They were all males of approximately 58 years old and shared the same educational background as JG. Standard neuropsychological tests to check their memory during the same day and two days later and retrograde memory tests were used. The Photographs test is a recognition memory test that was spread out over several days. Motor skills tests were used to determine whether procedural skills were affected. JG results on both 'same day' and 'two day' tests were significantly impaired. He scored below chance level on almost every test in contrast to controls, who scored above chance level on every test, and simulators, who scored on most 'two day' tests on or above chance level, and similar to controls on 'same day' tests. On motor skills tests Mr. G.'s scores were lower during the second trial, while controls and simulators' scores improved. On validity tests Mr. G. scored well on the TOMM but above cut-off on the SIMS and below chance level on the Warrington 48 hours Words and Faces tasks. At first sight, the tests results indicated that Mr. G. is feigning his symptoms. During the test week he had to consciously feign his symptoms, making him overdue it by scoring consequently below chance level both on 'same day' and on 'two day' tests. In daily life his feigning goes unnoticed now for three years. His impressively severe memory problems are fully 'incorporated' in his daily functioning and seem to go 'unconscious'. Also his family acts as if he is a severe memory patient. The findings raise also questions about FL's results, as the examiners of FL gave little attention to the possibility of feigning. Clinicians and researchers should be cautious in claiming unique cases of memory loss, as feigning or functional memory loss might often be a better alternative.

Session 4

Mild head injury and dementia

Moderation: Marko Jelicic

Symptom validity testing in mild head injury

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Symptom validity testing is particularly pertinent in mild head injury populations. This is because of the high base rate of malingering in this group and the paradoxical effect of higher rates of symptoms in head injury litigants who are classified as "mild" compared to "moderate-severe". There are also special issues to consider when validating symptom validity tests in relation to this population. This presentation presents a research paper (Hall, Worthington, & Venables, in press) which validates the Word Memory Test in relation to mild head injury and examines reasons for "effort test failure in this group". The Word Memory Test (WMT) effort indices were examined in 48 non-litigants with minimal to mild head injury (MHI) in the acute stages post-injury. At the established cut-offs, the WMT had an unacceptable false-positive rate (18%). *T* test analysis was also carried out for WMT passers and failures on a battery of neuropsychometric measures and across a range of demographic variables. The WMT was performed at a significantly lower level on the Wechsler Memory Scale – III word list sub-tests and verbal fluency tests ($p < .05$). This suggests that WMT failure may be indicative of a specific deficit in verbal processing in the acute phase of MHI.

Symptom Validity Assessment in patients with dementia and claimed dementia

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In independent neuropsychological examinations, patients who present severe dementia-like symptoms may be a challenge to the expert. Dementing conditions are manifold and do not present in a uniform way. Profound knowledge of differential diagnosis is a precondition to arriving at valid conclusions. When substantial secondary gain is at stake, claims of severe cognitive impairment may be completely invented. The forensic expert should be qualified to correctly identify false claims. This is where symptom validity assessment is indispensable. Conventional cutoff-based decision making may fail because, actually, severe cognitive impairment could be responsible for false-positive results. False-positive diagnoses of insufficient effort by a patient can have disastrous consequences for anyone with true dementia. Mistakes of this kind should therefore be strictly avoided. The forensic expert with profound knowledge of both differential diagnosis of the dementias and symptom validity assessment will usually have no difficulties in correctly identifying malingering patients who present dementia-like symptoms. These claimants usually present in a bizarre way exhibiting obvious inconsistencies; in forced-choice testing, they often perform either below chance or just at chance level. However, a true challenge arises for the expert when authentic dementia is intentionally exaggerated –an issue that has not yet been investigated.

Word Memory Test results of memory clinic patients

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Symptom validity measures (SVTs) that are embedded in standard neuropsychological tests are popular, because they are time-efficient. We wondered whether this would also work the other way around, i.e., whether a SVT might be used as tests of cognitive impairment. We studied this possibility using the Word Memory Test in memory clinic patients. The "dementia profile" of the WMT is used to reduce false positives. Provided that this profile reflects genuine memory impairment, corresponding cognitive deficits should be found at standard neuropsychological testing. We examined whether a WMT dementia profile is a significant indicator of cognitive impairment and/or decline. In addition, we evaluated the classification accuracy for the clinical diagnosis of dementia. Elderly patients (n = 167) with cognitive complaints were given an extensive neuropsychological test battery, including the WMT. The assessment was repeated two years later. The results demonstrate that patients with the dementia profile have a higher chance of showing real cognitive impairment at baseline, and even more so two years later. They showed a faster cognitive decline than patients who passed the WMT effort subtasks. Sensitivity of the profile was a moderate 60%. However, the positive predictive value was high, viz. 81% at baseline and 93% at follow-up. We conclude that the WMT may serve two purposes in memory clinics: One is symptom validity testing and the other is prediction of (future) cognitive decline.

First base rate estimates of performance validity in Switzerland

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Up to present date, there is only one study facing the prevalence of "nicht-zielkonformer Leistungen" (payments not conform to the goal) in Switzerland (Ott et al., 2007), estimating a base rate below 10%. Leading physicians of Swiss MEDAS-Institutions assume the deliberate production of false physical or psychological symptoms to be rare, while gross exaggeration is thought to be more frequent (Kool et al., 2008). We present data from more than 300 individuals seeking disability compensation after whiplash and/or mild traumatic brain injury (MTBI). They were referred for independent neuropsychological evaluation as a part of an independent medical examination. The test battery applied contained at least one stand-alone symptom validity test and multiple embedded effort indicators. According to published cut-off scores, up to 54% of patients showed objective evidence of poor effort in at least 1 stand-alone cognitive effort measure or the reliable digit span (RDS). A substantial number of them fulfilled the Slick criteria of probable malingered neurocognitive disorder (MND).

Parallel workshops

Reported mental health problems: A practical approach to assess symptom validity

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While a general consensus has been reached that standardized assessment for cognitive deficits is essential with examinees who report such symptoms, there is a baffling lack of comparable standards (at least in Europe) when it comes to assessing symptoms that are not measurable by performance testing due to their quality: For example, questions as "Are the reported symptoms of PTSD authentic?", "Does this patient really suffer from auditory hallucinations?", "Are the symptoms presented consistent with depressive disorder?", "Is the examinee really confused or does he or she just pretend?" cannot be addressed through testing cognitive performance, which has led some experts to assume that we would be left with nothing more than to rely on clinical experience and clinical impression alone to inform our assessment when we have to deal with the above range of symptoms. This workshop will show this assumption to be erroneous and, after a brief overview of the prerequisites, focus on the practical aspects of SVT for qualitative symptoms. Interactively working through authentic cases from clinical and court practice will illustrate:

- Which strategies examinees use when feigning qualitative symptoms
- When standardized SVT for qualitative symptoms is useful
- How to decide which tests to apply for the specific case
- The strengths and limitations of such tests
- What you can do if standardized testing is impracticable
- How to integrate your findings into the given context for reports to colleagues and institutions.

The tests discussed will include the SIMS, SIRS, MENT, and others. As this is an interactive workshop and the presenters cannot possibly cover the field comprehensively, participants are encouraged to contribute cases of their own and exchange their personal experience with the tests they apply.

How to use the WMT, MSVT, NV-MSVT, MCI, and the Advanced Interpretation program

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Poster Abstracts

The effect of misinformation on performance on neuropsychological functioning

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Research has demonstrated that symptom labelling, and the medical and social actions that accompany such labelling, may

have iatrogenic effects. The mechanisms underlying these effects are poorly understood, but inadvertent misinformation by clinicians may be a factor. The aims of the present study were twofold: (A) to replicate the findings of Merckelbach et al (2011) and demonstrate that misinformation alters normal subjects' self-perception of their cognitive functioning, and (B) to examine whether misinformation is also associated with altered performance on cognitive testing.

Research Design. Fifty-two healthy undergraduate students were recruited. Cognitive functioning was assessed at baseline (T1) and using the Paced Auditory Addition Test (PASAT: 1 sec & 2 secs administration) and subjective functioning was assessed using the SCL-90. Following T1, subjects were misinformed about their responses to three target items on the SCL-90 and asked to elaborate on problems about their cognitive functioning they had purportedly endorsed. Subsequently they were retested on the PASAT and SCL-90.

Results. Four participants scored more than 2 on one or more of the (three) SCL-90 target items at baseline assessment, indicating perceived cognitive difficulties, and were excluded from further analyses. During the interview, 39 participants (81.3%) accepted the manipulation of target items, thus were blind to the discrepancies between their original symptom ratings and the upgraded scores they were misinformed with. On the retest of the SCL-90 blind participants revised their symptom ratings in the direction of the misinformation for target items, but not control items (Timepoint [T1, T2] x Item Type [target, control] analysis of variance [ANOVA], $p < .001$), suggesting the manipulation affected significant change in blind participants. Change-blindness was not associated with age, gender, premorbid function scores, or Global Severity Index (GSI) of the SCL-90. PASAT performance was evaluated using Timepoint (T1, T2) x Group (Blind, non-Blind) ANOVAs, administered separately for each PASAT task (1-sec and 2-sec). On both tasks, there was a highly significant effect of Timepoint ($p < .001$), reflecting the improvement on the second administration across all participants. There was no main effect of Group on either 1-sec or 2-sec PASAT ($p > .350$) and no Timepoint x Group interaction for the 2-sec (PASAT ($p = .358$). However, the Timepoint x Group interaction was significant for the 1-sec PASAT ($p = .033$), reflecting the greater improvement of non-blind participants relative to blind participants on the second administration of the 1-sec PASAT.

Conclusions. The results indicate that misinformation affected both subjects' ratings of psychological complaints, but also in part their performance on cognitive testing. Misinformation may therefore be an important factor in shaping individuals' self-report and their performance and be a contributory iatrogenic factor in forensic evaluations.

Cognitive dissonance related to residual symptoms after malingering, except for psychopathic individuals

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The DSM-IV conceptualizes malingering as conscious symptom fabrication and somatoform complaints as unconscious symptom production. However, some authors have argued that these phenomena need not exclude each other (Turner, 1997). Interestingly, a recent study found that engaging in malingering produces residual symptoms (Merckelbach et al., 2011). This suggests that malingering may gradually develop into somatoform complaints. We hypothesized that the mechanism behind this development is cognitive dissonance. Thus, if one malingers symptoms, this induces dissonance. People generally want to reduce dissonance and may do this by assuming they did not lie in the first place. There are indications that people with psychopathic traits experience less dissonance (Murray, Wood, & Lilienfeld, 2012). We tested whether cognitive dissonance is related to somatic complaints after writing a fake sick note. We also tested whether higher psychopathy scores are associated with lower cognitive dissonance.

Method. Sixty students (22 men and 38 women) were approached at Maastricht University. Their mean age was 21.7 years ($SD = 2.5$, range = 18-29 years). Subjects indicated on a 100 mm VAS-scale to what extent they experienced somatic complaints. Subsequently, they were requested to write a brief note to their teacher, mentioning they were ill and could therefore not attend the tutorial. Next, participants indicated on a 100 mm VAS-scale how unpleasant it was to write the note. Following this, they once again indicated on a 100 mm VAS-scale to what extent they experienced somatic complaints. Lastly, participants were e-mailed a questionnaire tapping psychopathic traits (LSRP, Levenson Self Report Psychopathy scale).

Results. Writing the letter was experienced as unpleasant ($M = 34.1$, $SD = 27.4$). Unpleasantness ratings deviated from zero, $t = 6.82$, $p < .01$. The Pearson product moment correlation between unpleasantness and baseline-corrected somatic complaints (posttest - baseline) was .37 ($p = .004$), indicating that more dissonance was associated with stronger residual symptom effects. The participants (18 men and 22 women) who completed the LSRP obtained a mean total score of 45.9 ($SD = 7.0$). The correlation between unpleasantness and the LSRP total score was -.32 ($p = .042$), suggesting that higher psychopathic trait scores were accompanied by lower dissonance levels.

Discussion. The higher participants rated the unpleasantness of writing the fake note, the more somatic complaints they reported afterwards. This supports the idea that cognitive dissonance drives the development from malingering to somatoform complaints. Furthermore, higher psychopathy scores were related to experiencing the writing of the note as less unpleasant, suggesting psychopathy is inversely related to dissonance. Overall, our findings raise interesting points, including the idea that malingering and somatoform complaints overlap.

Standard deviation of simple reaction time as an indication of negative response bias

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Negative response bias is examined quantitatively with explicit symptom validity tests (SVT) or embedded parameters. Embedded parameters are susceptible only to a mild degree to test coaching, as they are not intuitively discernible. The aim of the present study was the investigation of the criterion validity of the standard deviation of simple reaction time as an embedded parameter.

*Material and method***.** The study involved a total of 26 women and 65 men with traumatic brain injuries and an average age of 45.8 years. The subjects presented themselves for neuropsychological examination in the context of an investigation of compensation claims. Standard deviations of simple reaction time were used as dependent variables. The simple reaction times were measured with the Attention Examination Test Battery (TAP, subtest Alertness).

Continuous predictor variables in multivariate covariance analysis were the age of the subjects and the raw test values of Trail Making Test (parts A and B), GSI parameter of the Symptom Checklist (SCL-90-R), Digit Span Forwards from the Wechsler Memory Scale (WMS-R), German version of Structured Inventory of Malingered Symptomatology (SIMS) and the mean value of correct answers to parameters IR, DR, and CNS of the Word Memory Test (WMT) expressed as percentages. The sex of the subjects and the dichotomous grouping of the patients with or without clinically observed conspicuities of attention were included as categorical predictor variables.

Results. Overall, the multivariate covariance model was statistically significant for both dependent variables. Of the predictor variables, only the mean value of the correct answers to the Word Memory Test was very significant, and that for both models. Subjects with a low number of correct answers in the Word Memory Test exhibited significantly greater standard deviations. All other categorical or continuous predictors involved, particularly both attention parameters, were insignificant with regard to the two dependent variables.

Conclusions. The standard deviation of simple reaction times indicates a close and statistically significant correlation with an explicit symptom validity test (WMT) as an external criterion. The criterion validity of the standard deviation is thus obtained for the first time for the exposure of negative response bias. Attention disorders resulting from a traumatic brain injury are of no significance if assessed through a paper and pencil test and clinical observations. Other possible influencing variables, such as sex, the level of psychic ailment, or short-term memory capacity are of no prognostic significance with regard to mean standard deviations. A repetition of this examination design on a considerably larger sample is planned for single-case diagnostic evaluation of the standard deviation.

Swiss reference data for six symptom validity tests

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