



Detecting malingered memory problems in the civil and criminal arena

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Feigning a psychiatric or neurological disorder may be an attractive strategy to obtain all sorts of privileges or disability benefits. In the criminal arena, feigning memory loss for a crime (*crime-related amnesia*) may be a way for defendants to gain sympathy or to promote a diminished capacity defence. Although crime-related amnesia may, under some circumstances, be genuine, in many cases it is more likely to be malingered. Malingered memory problems are a subtle form of deception and what is true for deceptive behaviour in general is also true for malingered memory loss: on the basis of clinical intuition alone, it is difficult to detect. Fortunately, there are methods and tools to evaluate the authenticity of memory problems. It is important that forensic and clinical psychologists familiarize themselves with these techniques.

Every now and then, most individuals intentionally conceal or distort important information about themselves. This is true in therapeutic settings, personal relationships, and the legal arena. For a civil litigant or offender who wants to conceal or distort something, memory is an attractive option. The point is that the evaluation of memory depends on verbal self-reports. It is difficult to check directly the extent to which these self-reports truly reflect memory capacity. In addition, memory is a vital capacity. A memory dysfunction interferes with the ability to meet requirements for work and so gives rise to the issue of compensation. In the criminal domain, loss of memory for crime details may indicate the possibility that the crime was unintentional and, in this way, raises the issue of diminished responsibility. This article addresses the concept of malingering in general and that of feigning memory loss in particular. It also focuses on methods to detect feigned memory loss. The first part reviews the literature on the feigning of cognitive dysfunctions in civil cases (e.g. personal injury cases). Several instruments to test this type of malingering are discussed. The second part focuses on claims of crime-related amnesia, and the role of expectancies, psychopathy, and alcohol in such claims. We also briefly discuss guidelines and tests to assess the authenticity of amnesia claims in criminal cases.

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Malingered cognitive dysfunctions

Psychiatrists and neurologists often see patients with memory or concentration problems. In such cases, a neuropsychological test battery is usually administered to investigate how the subjective complaints affect the patient's daily functioning. In regular healthcare, poor performance on neuropsychological testing is interpreted as a manifestation of a cognitive dysfunction (Lezak, 1995). However, when a patient is tested in the context of a civil or criminal lawsuit (e.g. a personal injury case), the interpretation of deviant test results is much more difficult. An example is the following case vignette.

In 2004, Mr Bear, a 58-year-old high school teacher, was hit by a car while he was riding his motorcycle. He was thrown off bike, and although he had been wearing a helmet, soon after the accident he developed several complaints. These included nausea, vomiting, dizziness, and headaches. The family doctor diagnosed Mr Bear with a concussion, and advised him to take some rest. However, his complaints worsened over time. Mr Bear reported tingling in his arm and hand, headaches, hypersensitivity to light and noise and, above all, poor memory. He said that he was experiencing great difficulty with everyday activities like grocery shopping and remembering telephone numbers. Neither admission to a rehabilitation clinic nor visits to a physical therapist, acupuncturist, or homeopathic practitioner brought relief. Eventually, Mr Bear decided to go to a medical examiner as part of a disability assessment, since he was convinced that his concentration and memory problems would make it difficult for him to ever teach again. However, no neurological evidence was found for his memory problems (his CT scan was unremarkable, etc.). The medical officer representing the insurance company decided to send Mr Bear to a neuropsychologist to assess his reported cognitive deficits.

In situations like this, neuropsychologists know that there are two possible scenarios. One is that a subtle, difficult-to-localize brain deficiency is causing the cognitive problems; the other scenario is that the patient is exaggerating the complaints for an external reason. In cases like that of Mr Bear, financial gain may be the driving force behind the exaggeration or fabrication of complaints. Deliberate exaggeration, fabrication, or misattribution of symptoms to obtain a desired external goal is behaviour commonly known as 'faking bad', simulation or malingering (Berry, Baer, Rinaldo, & Wetter, 2002). In the civil arena, malingered memory complaints do not occur in isolation: they are usually accompanied by other fabrications. Persistent whiplash or protracted post-concussion complaints are cases in point. The British neurologist Miller (1961) argued that simulation is a prominent feature of late post-concussion syndrome (LPCS; Greiffenstein & Baker, 2001). LPCS includes pseudo-neurologic, emotional, and memory complaints, in the absence of objective neurological findings (Vanderploeg, Curtiss, Duchnick, & Luis, 2003). Miller observed that many litigants suffering from minor cervico-cranial injuries return to work after receiving financial compensation. Miller also described an inverse dose-response relationship in compensation injury; smaller cervico-cranial injuries are followed by more 'florid' later symptoms (Greiffenstein & Baker, 2006).

Studies investigating the prevalence of LPCS in countries where compensation claims of this type are unknown or have been abolished (e.g. Lithuania) demonstrate that few persistent complaints arise after traffic accidents (Cassidy *et al.*, 2000). Although there may be initial complaints about head and neck pain or memory loss after a collision, these complaints disappear in 90% of the cases within 1 month of the accident. This pattern strongly suggests that in many cases, LPCS complaints are

motivated by insurance claims (Cassidy *et al.*, 2000). In countries like USA, personal injury lawyers continuously promote their services on TV while promising big payouts, thereby fuelling the simulation of complaints (Malleon, 2002). Likewise, in The Netherlands, research has demonstrated that simulation of LPCS frequently occurs. For example, Schmand, Lindeboom, Schagen, Heijt, Koene, and Hamburger (1998) reported that 60% of their LPCS patients exaggerated their cognitive problems. Mittenberg, Patton, Canyock, and Condit (2002) surveyed US board-certified clinical practitioners, and found that the estimated base-rates of probable malingering or exaggeration varied between 29 and 40% in mild head and other injury as well as disability cases.

Despite the evidence that simulation of cognitive complaints regularly occurs in patients with financial or legal motives, some medical experts maintain that simulation is a rare phenomenon (Gerson, 2002). This may have to do with their clinical orientation. Although doctors may learn from their mistakes through follow-up findings (e.g. when a patient misdiagnosed with a simple burnout returns with symptoms indicative of serious depression), such corrective feedback rarely occurs for simulated disorders. A successful malingerer will not return to communicate that he had feigned his disorder and was in fact healthy all the time (Faust, 1995). Another problem in clinical settings is that the clinician is trained to take the patient's complaints seriously. After all, the worst mistake clinicians can make is a false negative: sending the patient home having told him he is fine, while in fact he has a serious illness (Rassin & Merckelbach, 1999). The doctrine in clinical education is that 'absence of evidence is not evidence of absence' (e.g. Bigler, 2001). At times, this clinical orientation can hinder doctors and psychologists in detecting simulation (Faust, 1996). Of course, the phenomenon of malingering belongs to a different category of error: the false positive (i.e. diagnosis of a disorder which is in fact absent).

Assessment of malingered neuropsychological deficits

When insurance companies or social security institutions have doubts about a plaintiff's motives, they sometimes ask for an extensive evaluation of the plaintiff. Fortunately, there are several tests to evaluate the authenticity of cognitive complaints. Thus, in this context, a neuropsychological assessment should not only focus on learning and memory capacity, but also on malingering tendencies. Ideally, such evaluations screen for two tendencies that malingerers exhibit (Iverson, 1995): the tendency to overendorse symptoms on self-report measures, and the tendency to underperform on cognitive tasks. In the following, we briefly discuss both types of test.

Self-report tests with embedded validity indicators

Widely used tests such as the Minnesota Multiphasic Personality Inventory (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) have embedded validity indicators. The MMPI is a 567-item self-report inventory designed to assess general personality traits and psychological symptoms. In addition, its validity scales assess the underreporting of symptoms (L, K, S scales), overreporting of acute distress or depressive symptoms (Fb scale) or rare symptoms in either the general population (F scale) or psychiatric patients (Fp scale). To evaluate the probability of malingering, performance on the infrequency (F) combined with the infrequency-psychopathology

(Fp) scales can be used. A strong tendency to endorse F-scale items describing infrequent symptoms (e.g. 'There is something wrong with my mind' or 'Someone has been trying to poison me') is thought to indicate exaggeration of psychological distress. A scale indicating exaggeration of more subtle symptoms is the dissimulation scale (DS). Overendorsing items of this scale (e.g. 'No one seems to understand me') is often seen in patients who are feigning symptoms for financial gain or manipulative intent (Arbisi & Ben-Porath, 1995). To assess the validity of an individual MMPI-2 profile, an extensive multistep process should be carried out, which is complex, time consuming, and requires proper training. Yet, it provides clinicians with a first impression of patients' tendencies to distort their responses so as to exaggerate psychopathology. This is especially true for more recent and well-researched MMPI validity indices, of which the Lees-Haley Fake Bad Scale (FBS; Lees-Haley, English, & Glenn, 1991) and the Response Bias Scale (RBS; Gervais, Ben-Porath, Wygant, & Green, 2007) are the best known examples.¹

Dedicated self-report tests and interviews

Other methods that can be used to assess malingering in both civil and criminal cases are the structured inventory of malingered symptomatology (SIMS; Smith & Burger, 1992) and the structured interview of reported symptoms (SIRS; Rogers, 1992). Both instruments were developed to assess overreporting of psychiatric and neurocognitive symptoms. The SIMS is a 75-item measure to screen for a broad range of fabricated symptoms. It contains five subscales corresponding to symptom domains that are known to be popular among malingerers: low intelligence, affective disorder, neurological impairment, psychosis, and amnesic disorder. The SIMS asks about bizarre and nonexistent symptoms like: 'Sometimes I lose all feeling in my hand so that it is as if I am wearing a glove' and 'When I can't remember something, hints don't help'. The idea is that malingerers will tend to exaggerate and therefore endorse bizarre, unrealistic, and atypical symptoms. The number of symptoms endorsed by the examinee is summed to obtain a total score. If this score exceeds a fixed cut-off, the person is suspected of malingering symptoms. Despite its high diagnostic quality (e.g. Jelacic, Peters, Leckie, & Merckelbach, 2007; Merckelbach & Smith, 2003), the SIMS should only be used as an indicator of malingering. For a definitive classification of malingering, additional measures (e.g. SIRS) and information from other sources (e.g. psychiatric history, corroborative records) are required.

Unlike the SIMS, the SIRS is a structured interview. What both tests have in common is that they focus on symptom reporting. The SIRS has been widely adopted as the gold standard for malingering research on feigned mental disorders in both clinical and forensic practice. It consists of 172 items organized into eight scales. The scales tap rare and absurd symptoms, blatant and subtle symptoms, unusual symptom combinations, lack of symptom selectivity, extreme symptom severity, and inconsistencies between reported versus observed symptoms. Thus, items are of the type: 'Is the government trying to keep track of your actions? Is it using military aircraft to do this?' and 'Do you become nervous and fidgety whenever you use the bathroom?' Apart from these eight scales, the SIRS provides additional data about defensiveness, self-appraisal of

¹ The FBS aims to capture subjective complaints in the context of malingered medical symptoms, while the RBS is a good predictor of cognitive underperformance.

honesty, and inconsistent responding. Based on his or her scores on the eight primary subscales, the examinee is classified as feigning, not feigning or indeterminate. The SIRS has good to excellent reliability and is normed to avoid false positives (see also Rogers, 2008a).

Tasks measuring cognitive underperformance

Standard neuropsychological tests like the Wechsler Memory Scale (WMS-III; Wechsler, 1997) and the Wechsler adult intelligent test (WAIS-III; Wechsler, 1981) contain subscales that are sensitive to suboptimal effort. For example, people who simulate brain injury tend to perform poorly on the digit span (DS) subscale of the WMS-III such that they recall fewer digits than brain-damaged controls. Malingerers erroneously believe that this scale measures memory while in fact it taps attention and concentration. As the DS is relatively insensitive to various forms of brain dysfunction, malingerers will often perform below the level of serious neurological patients (Axelrod, Fichtenberg, Millis, & Wertheimer, 2006; Mittenberg, Azrin, Millsaps, & Heilbronner, 1993). Still, though research has demonstrated that underperformance on this scale is indicative of intentional poor effort, the DS should not be used in isolation.

Over the past few years, neuropsychologists in particular have developed a wide variety of dedicated tests to identify underperformance. Examples of frequently used tests to assess feigned memory problems (in civil cases) are the Amsterdam short-term memory test (ASTM; Schagen, Schmand, De Sterke, & Lindeboom, 1997), the word memory test (WMT; Green, Lees-Haley, & Allen, 2002), the Rey 15-item memory test (RMFIT; Boone, Salaza, Lu, Warner-Chacon, & Razani, 2002), and the test of memory malingering (TOMM; Greve, Bianchini, & Doane, 2006). Basically, these tests require the simple recognition of previously learned words mixed in a list of new words (ASTM, WMT); immediate reproduction of a visual stimulus like a digit, character or circle combined with a recognition procedure (RMFIT); or picture recognition (TOMM). Cognitively impaired patients usually obtain near-perfect scores on these tests. Because the tests all possess high specificity and adequate sensitivity, suboptimal performance suggests that the examinee is exaggerating his or her memory problems. An advantage of these tests is that they are relatively easy to administer and not particularly time consuming. Yet, again, there is broad consensus among experts that the best strategy is to use a combination of tests that measure overendorsement and suboptimal performance in several domains. The papers by Berry and Schipper (2008) and Sweet, Condit, and Nelson (2008) provide detailed reviews of these tests.

Some malingering measures make use of a forced-choice recognition paradigm based on probabilistic statistics. The items usually contain two answer options that are equally plausible, but only one of which is correct. Thus, someone with a severe cognitive dysfunction who responds randomly will perform roughly at chance level (i.e. around 50% correct). Performance above chance indicates intact perception or memory, whereas performance significantly below chance strongly suggests intact perception or memory, but with deliberate underachievement. This type of task is also known as symptom validity testing (SVT; Sweet *et al.*, 2008). SVTs are usually simple, which means genuinely brain-damaged and psychiatric patients will perform almost perfectly. The other side of the coin is that some SVTs are fairly transparent. Consequently, malingerers may recognize the rationale behind the test and subsequently refrain from biased responding to avoid detection. To improve sensitivity and to counter random performance by malingerers, some SVTs take clinical floor effects into account.

That is, they compare the scores obtained by litigating patients against the performance of genuine patients (the clinical floors). Scores below those obtained by individuals with actual disorders (e.g. brain injury, psychiatric illness) provide strong evidence for malingering. We discuss SVTs in more detail below.

Coaching

In Mr Bear's case, the neuropsychologist administered an intelligence test, the MMPI and the ASTM (cf. *supra*). As noted above, the MMPI includes validity scales tapping atypical experiences (e.g. 'Sometimes when I get nervous I see large, black triangles jumping up and down my retina'). The ASTM is a memory test that at first sight seems complex. Patients initially have to memorize five words from one semantic category (e.g. animals), then make a simple calculation, and finally choose from another five words (from the same category) three words that appeared in the first wordlist. Despite its apparent complexity, even patients with brain damage perform almost 100% correctly on this test (Schagen *et al.*, 1997).

Mr Bear's results on the intelligence test were even worse than that of Alzheimer's patients. On the MMPI, he scored abnormally high on the validity scales tapping infrequent experiences, while on the ASTM he performed below the clinical floor. In her report, the neuropsychologist indicated that Mr Bear was simulating his cognitive deficits and that she was therefore unable to make a statement about the actual scope of his memory deficits. This was an undesirable outcome for Mr Bear's lawyer. He did what many lawyers probably do in cases like these: continue their 'expert shopping' until they get the desired outcome. The question arises whether Mr Bear's malingering would have gone undetected if he had been coached by a lawyer or had done some internet research before his session with the neuropsychologist. A variety of findings suggest that the validity of malingering tests may be eroded through the diffusion of knowledge about their procedures (Ruiz, Drake, Glass, Marcotte, & Van Gorp, 2002). Although coaching may undermine their diagnostic accuracy, this problem may be mitigated by combining several tests (to detect overreporting) and tasks (to detect underperformance). Research shows that coached malingerers have more difficulty beating the multi-method, multi-task approach (e.g. Gorny & Merten, 2005). Also, some malingering tests (the WMT, SIMS etc.) appear to be relatively insensitive to coaching (Dunn, Shear, Howe, & Ris, 2003; Jellicic, Merckelbach, & Van Bergen, 2004).

Malingered crime-related amnesia

Civil claimants like Mr Bear may present memory problems in an attempt to receive compensation for injury. In contrast, for a defendant the motive may be to reduce criminal responsibility. Many perpetrators of violent crimes claim to have great difficulty remembering the essential details of the crime (*crime-related amnesia*). Memory loss for crime has been reported in 25–40% of homicide cases and severe sex offences (Bourget & Whitehurst, 2007; Cima, Nijman, Merckelbach, Kremer, & Hollnack, 2004).

One interpretation of crime-related amnesia claims is that they are authentic and originate from structural or transient brain impairment. This type of amnesia is termed *organic amnesia*. Although there are well-documented cases of offenders who cannot recall their crime due to organic amnesia caused by a blow to the head, a sleeping disorder or temporal lobe epilepsy (for examples see Merckelbach & Christianson, 2007),

this is a rare form of amnesia. There have been cases, for instance, in which defendants claim that their alcohol consumption prompted a sleepwalking episode during which they committed a crime that they cannot remember. However, the base-rate for alcohol to produce impulsive violence is much higher than that of sleepwalking violence. Accordingly, Pressman, Mahowald, Schenck, and Bornemann (2007) conclude that 'a conservative estimate would be that alcohol alone is five million times more likely than sleepwalking or confusional arousal to be the cause of violent behavior' (p. 210).

More likely is that an offender claims amnesia for a crime without there being any evidence for an organic dysfunction. In those cases, the possibility of either *dissociative amnesia* or *malingered amnesia* should be considered. Dissociative amnesia is believed to result from the extreme stress and emotions that perpetrators experience when they commit a crime (e.g. Arboleda Florez, 2002). The stress may result from a provocation by the victim or from the crime itself. The idea is that during such a radical emotional state, information is stored in an exceptional way (Porter, Birt, Yuille, & Herve, 2001). According to the theory of state-dependent memory, memories stored in one state (e.g. strong emotions) are difficult to retrieve in another (e.g. when calmed down). Thus, due to the discrepancy between the storage and retrieval of the pertinent memories, an offender who committed a crime in an agitated state may be unable to retrieve memories of the crime when in a normal state again (Swihart, Yuille, & Porter, 1999). In the Anglo-Saxon literature, dissociative amnesia caused by extreme emotions or rage is sometimes dubbed 'red-out' (Swihart *et al.*, 1999). Several authors have argued that dissociative amnesia is typical for crimes that are unplanned, involve a significant other, and are committed in a state of strong agitation (e.g. Swihart *et al.*, 1999).

A claim of this type of amnesia raises the issue of automatism. Automatic behaviour is believed to be initiated by a psychological blow (e.g. provocation) that causes the defendant to commit the crime in an automatic (i.e. unconscious and/or uncontrollable) state (Arboleda Florez, 2002; McSherry, 2004). According to some experts, a crime that took place in The Netherlands in 2001 illustrates this type of causation. The perpetrator in this case killed his wife, from whom he was divorcing, after she threatened to accuse him of sexually abusing their daughter. The man claimed that he had no memory of killing his wife. The only thing he remembered was her accusation, after which, he reported, his ears started to sing and the light went out in his eyes. When he came to his senses, his wife's body was lying in the backyard, his hands loosely around her neck. The three experts in this case, none of whom had tested the defendant's memory performance, opined that he had suffered from an acute dissociative reaction and had been unable to control his behaviour during the crime. He was acquitted.

Amnesia with this type of psychological causation is believed to be authentic (Hopwood & Snell, 1933; Porter *et al.*, 2001), among other things because perpetrators in such cases often turn themselves in Kopelman (1995). As Kopelman (1995) writes, 'This makes an account of amnesia as simulation to avoid punishment seem less plausible' (p. 435). However, this line of reasoning is less compelling when there is abundant technical evidence against the suspect. Feigning amnesia in that situation could serve a different function, namely to gain sympathy from the police, or to set in motion the psychiatric expert circus so as to obtain a diminished responsibility judgment. Such motives may have played a role in the Dutch case presented above. Persisting in a claim of amnesia may also be motivated by an attempt to avoid extensive,

uncomfortable discussions about the crime during either police interrogation or treatment in a forensic hospital (Marshall, Serran, Marshall, & Fernandez, 2005). In the Dutch case, the experts appeared quite insensitive to the possibility that these motives might have shaped the amnesia claim.

Another motive for an offender to claim amnesia, or to even to feign traumatic brain injury or epileptic seizures, may be to appear incompetent to stand trial (Tysse, 2005). The idea here is that a defendant who has no memory of the act cannot defend him- or herself. A classic example is that of Rudolph Hess who, at the start of the Nuremberg trials, claimed to be amnesic for his activities under the Third Reich. A group of prominent psychiatrists examined Hess and concluded that his amnesia was genuine. However, when it became clear to Hess that the amnesic role he was playing conferred a disadvantage in the sense that he could not respond to allegations, he suddenly announced during one of the trial sessions that he had feigned his amnesia (Gilbert, 1971).

Although courts seldom find defendants incompetent to stand trial solely because of amnesia, not everyone agrees with the legal irrelevance of amnesia claims. Tysse (2005) claims that: 'His inability to testify to facts which may establish an effective alibi, or to offer evidence in excuse, justification or extenuation would seem to bring the amnesic clearly within the very purpose of the competency rule' (p. 336). In addition, the data by Pyszora, Barker, and Kopelman (2003) suggest that defendants claiming amnesia are more likely to be examined by a psychiatrist or neurologist, which raises the chance that these experts come up with a serious diagnosis (e.g. epilepsy, sleep disorder, schizophrenia) such that diminished capacity becomes an issue at trial.

When role playing produces memory-undermining expectancies

According to Hopwood and Snell (1933), repression or dissociation may underlie claims of dissociative amnesia for a crime. Yet, other experts argue that it is not repression, but rather an encoding deficit that is responsible for poor memory of highly emotional events such as crimes (Payne, Nadel, Britton, & Jacobs, 2004). Stressful events are believed to be encoded in a 'fragmented' manner, but, 'at the same time, emotion works to promote memory for the gist of an event, leading to well-encoded memories of the thematic content of an emotion event . . .' (Payne *et al.*, 2004, p. 44). Indirect evidence that at least some claims of crime-related amnesia might be genuine comes from studies suggesting that a number of homicide offenders suffer from post-traumatic stress disorder (PTSD) symptoms (Pollock, 1999). Indeed, one of the symptoms of PTSD is the inability to remember parts of the trauma (e.g. the crime). The majority of offenders with PTSD have been involved in *reactive* (i.e. impulsive, unpremeditated) rather than *instrumental* (i.e. planned, goal-directed) crimes. Thus, Christianson and Von Vogelsang (2006) found that crime-related amnesia claims are more typical for reactive (53%) than instrumental (30%) homicide cases (see also Christianson, Merckelbach, & Kopelman, 2006). Nevertheless, sceptics believe that genuine dissociative amnesia is rare. They point out that other trauma victims (e.g. concentration camp survivors) rarely report dissociative amnesia (e.g. Merckelbach, Dekkers, Wessel, & Roefs, 2003a,b). For example, Rivard and colleagues (2002) examined a large sample of police officers involved in critical shooting incidents and found no reports of amnesia. Also, recent research shows that when participants encode information while in 'survival mode', this yields superior memory effects. This finding is difficult to reconcile with the idea of dissociative amnesia while committing a crime

(Nairne & Pandeirada, 2008), and suggests that most crime-related amnesia claims can be accounted for in terms of malingering.

Another possibility that should be taken seriously is that certain expectations may underlie crime-related amnesia claims. According to Kopelman (2000), the different forms of amnesia (organic, dissociative and feigned) may actually overlap and 'form endpoints on a continuum rather than discrete categories' (p.608). A previous experience with organic amnesia (e.g. due to an alcohol blackout) may form the input for simulation and people may come to believe in their amnesia or role playing (Kopelman, 2000). Likewise, risk factors for developing dissociative amnesia include pre-existing heightened suggestibility, previous episodes of a hysterical or conversion response to stress, and an emotional personality style that might increase the probability of a conversion disorder (Holmes *et al.*, 2005; Sweet *et al.*, 2008). As conversion symptoms can be removed by hypnotic suggestion, expectancies, or beliefs may underlie pseudo-neurological symptoms (Holmes *et al.*, 2005). Similar to the false belief that one is paralysed, as typically found in conversion disorder, amnesia claims in the absence of medical evidence may be based on strongly held beliefs (see also Jureidini, 2004; Van Oorsouw & Cima, 2007).

Thus, some offenders may come to genuinely believe that they are amnesic when in fact they are not. There is good experimental evidence for this type of aetiology. For example, in a series of studies, undergraduate students were asked to commit a mock crime. Next, they were instructed either to simulate amnesia for the event or to respond honestly. When the simulators were asked one week later to give up their role as amnesics, they were outperformed by the controls on a memory test of the mock crime (Christianson & Bylin, 1999; Van Oorsouw & Merckelbach, 2004, 2006). Christianson and Merckelbach (2004) speculated that offenders who initially play the role of an amnesic may have strong expectations that they will perform poorly on a subsequent memory test.

Manipulating expectancies by placebos

That expectancies or beliefs can play a role in memory performance has been demonstrated in several placebo studies (e.g. Kvavilashvili & Ellis, 1999). Assefi and Garry (2003), for example, found that the mere suggestion to participants that they had consumed alcohol, when in fact it was plain tonic, made them more susceptible to misleading information. In another study, participants who believed they had received a memory-enhancing drug recalled more details of an emotional video fragment that they had watched beforehand compared to the controls. Similarly, participants who thought they had received a memory-impairing drug made more distortion errors (i.e. minor changes in the details of the story) than the controls (Van Oorsouw & Merckelbach, 2007).

To test the usefulness of memory-enhancing placebos in lifting expectancy-based amnesia, Van Oorsouw and colleagues administered 'memory-enhancing' placebos to two forensic patients who claimed crime-related amnesia (for a more detailed description see Van Oorsouw & Cima, 2007). They reasoned that if the amnesia of these patients was expectancy based (i.e. if they really had come to believe that they suffered from amnesia), then changing these expectations might resolve the amnesia. If, however, the patients were role playing (i.e. feigning amnesia), a placebo might provide them with a face-saving way to give up that role (e.g. for the benefit of treatment or early parole). Before and after the placebo was administered, the patients' memories for

crime details were tested. To assess the tendency to malingering, the SIMS (cf. supra) was also administered. In addition, their personality types and propensity to exhibit faking good (i.e. *supernormality*) were assessed with the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) and the Supernormality Scale - Revised (SS-R; Cima *et al.*, 2003), respectively. Supernormality refers to systematic denial of common symptoms (e.g. intrusive thoughts, mild anxiety). The SS-R differs from social desirability scales in that it intends to specifically tap denial of the common psychological symptoms that healthy people usually report (e.g. rituals, worrisome thoughts). Thus, people scoring highly on supernormality try to come across as more normal than normal people actually are.

The placebo turned out to be effective in one patient, who said that parts of his memory for his murder attempt had returned. This man had strong doubts about his own memory functioning, firm beliefs about the existence of crime-related amnesia, and a previous experience with organic amnesia. His SIMS, SS-R, and PPI scores were all in the normal range, indicating that he had not feigned psychiatric symptoms, had not tried to appear supernormal, and had no psychopathic personality characteristics, respectively. Thus, his pronounced expectations about crime-related amnesia and his previous experience with memory loss may have contributed to his amnesia claim. In the second patient, the placebo was ineffective. This patient scored high on the SIMS amnesia subscale, suggesting that he had deliberately feigned his amnesia. In addition, his score on the SS-R indicated that in other respects, he had tried to appear healthier (e.g. supernormal) than healthy controls would. Furthermore, his high scores on the PPI indicated psychopathic traits. This pattern lends support to the interpretation that he had feigned amnesia, possibly to evade extensive crime-related therapy sessions, but at the same time tried to give a healthy impression, possibly to improve his chances of early probation (see also Van Oorsouw & Cima, 2007).

Psychopathy and claims of amnesia

The second case illustrates that the manipulation of expectancies was unsuccessful in a forensic patient who scored highly on psychopathic traits. According to Porter *et al.* (2001), false claims of amnesia might be especially prominent in psychopathic perpetrators. Clearly, malingering is a subtle form of deception, and deception is one of the hallmark features of psychopathy (Porter & Woodworth, 2007).

Psychopathic offenders are immune to emotional distress because of their emotional information-processing deficits (Cooper, 2005). As a consequence, the dissociative type of amnesia resulting from highly stressful crimes (i.e. usually reactive crimes) is unlikely to occur in psychopathic offenders. Indeed, psychopathic offenders are believed to have superior memories of their crimes because of the high degree of planning and preparation that accompanies the instrumental, goal-directed nature of their crimes (Brown & Craik, 2000; Porter & Woodworth, 2006; Woodworth & Porter, 2002). Empirical evidence for a link between psychopathic traits and malingering comes from studies by Gacono, Meloy, Sheppard, Speth, and Roske (1995) and MacNeil and Holden (2006). Not all researchers have replicated that link (Kucharski, Duncan, Egan, & Falkenbach, 2006), but two remarks are in order. First, psychopathy is a multifactorial concept and it is likely that not all of its facets are related to malingering in the same way. That is, some psychopathic dimensions may be related to faking good (i.e. *supernormality*), while others may be related to faking bad (i.e. overreporting symptoms; MacNeil & Holden, 2006). Second, malingering can best be seen as the

result of a cost-benefit analysis (e.g. Rogers, 2008b) and whether this analysis implies malingering depends on the particular circumstances of psychopathic individuals. There are some indications in the literature that psychopathic criminals are versed in malingering memory loss and other cognitive deficits during the pre-trial phase, but adopt a faking good strategy during the post-trial stage (Cima, 2003). All in all, clinicians evaluating claims of crime-related amnesia are well advised to rely not only on malingering tests of the type described above, but also on measures that tap psychopathic traits (e.g. PPI). In doing so, they should keep a reversed causal pattern in mind: that is to say, malingerers may underperform on psychopathy measures (e.g. Salekin, Kubak, & Lee, 2007).

Evaluating claims of crime-related amnesia

Interviewing defendants about their memory loss is a first step in testing the authenticity of amnesia claims. While doing so, it is important to pay close attention to how the defendants describe the memory loss and the events preceding and following the amnesia. For instance, genuine amnesia is usually gradual and blurred in onset and termination, contains 'islands of memory', and fades as time passes. Feigned amnesia is often described as sudden in onset, limited to the crime or the events preceding it, and full blown (i.e. no memory islands). Also, unlike genuine amnesia patients, offenders who are feigning amnesia say that hints or cues will not help them to retrieve information from their memories (Jelicic & Merckelbach, 2007). Thus, malingerers frequently engage in over-the-top presentation: 'individuals who malingering may show poor cooperation, aggravation, and frustration, slow response times and frequent hesitations, and general confusion during the testing process. They may ask the clinician to repeat questions, confuse directions during testing, and pretend to completely forget what was asked or presented during testing' (Iverson, 1995, p. 37).

A second step is the administering of dedicated malingering tests, which can provide useful information about the offender's tendency to malingering. Challenge tests like the SIMS may demonstrate whether an offender will tend to feign a broad range of psychiatric symptoms. Malingering tasks such as the TOMM (Tombaugh, 1996) may be helpful in identifying simulated memory impairments. Basically, the TOMM is an SVT; that is, it is a recognition test consisting of two learning trials and a retention trial. Recognition memory usually remains intact in genuine amnesic patients. Therefore, a poor recognition score is considered indicative of malingering (for more technical details, see Green, 2007). These and other tests presented in the section on assessing malingered neuropsychological deficits, however, are not designed to directly rule crime-related amnesia in or out. Therefore, failed tests provide the forensic psychologist only with indirect information regarding the authenticity of crime-related amnesia.

Symptom validity testing

SVT may give more specific information about the veracity of memory loss for a crime. SVTs designed for this purpose consist of a minimum of 12 questions about the crime. For each question, the offender has to choose between two equally plausible answers, only one of which is correct (e.g. Denney, 1996; Meijer, Smulders, Johnston, & Merckelbach, 2007; Morel & Shepherd, 2008; Rosen & Powel, 2003). The rationale behind this type of test is that an offender with genuine memory loss for the crime

(e.g. organic amnesia) will respond randomly (i.e. answer about 50% of the questions correctly). Below-chance performance – when the incorrect answer is chosen more often than the correct one – indicates deliberate avoidance of correct answers and, hence, intact memory for the crime. Having said that, above-chance performance does *not* rule out malingering. Although a well-designed SVT can be helpful in detecting feigned amnesia, finding sufficient details in the case file so as to construct good test items may be problematic. Also, if information about the crime has been presented in the media or revealed to the suspect in another way (e.g. during police interrogations), the information cannot be used to construct an SVT. Therefore, it is advisable to construct and administer a SVT in the early stages of the interrogation.² One side-effect of applying a SVT during this phase is that the defendant becomes aware of intimate crime knowledge that the police authorities possess. In some situations, this may be undesirable.

Alcohol blackout

The usefulness of the SVT was demonstrated in a German case of a 33-year-old man convicted of arson. He was diagnosed with pyromania and antisocial personality disorder (APD), and claimed that his memory loss was caused by excessive alcohol use. In this case, the court accepted a diminished responsibility argument. It ruled that, because of his intoxication, he may have had an alcohol blackout and may have committed his crime unconsciously and unintentionally. However, a close look at the circumstances of the crime revealed that the offender had not consumed such large amounts of alcohol within a short time-span that an alcohol blackout would be plausible. When administered an SVT about his crime, he only answered 6 out of 25 questions correctly. Performance at this level by chance would occur fewer than 8 times out of 1,000, which strongly suggests that he had feigned his amnesia (Van Oorsouw & Cima, 2007).

In The Netherlands and many other countries, reduced responsibility arguments in intoxication cases are rarely accepted by courts because of the *culpa in causa* ruling: People are expected to know the consequences of excessive alcohol use (or other drug intake, for that matter) and should thus be held fully responsible for their behaviour while under influence (e.g. Haque & Cumming, 2003). Yet, in the USA and Canada, legal experts sometimes do associate alcohol-related blackouts with loss of criminal intent or automatic behaviour (Kalant, 1996). In cases where suspects claim such blackouts, malingering can only be ruled out when the blood alcohol concentrations (BACs) are higher than 250 ml/100 mg (Kalant, 1996). At these high levels, a blackout is clinically possible.

Some experts have argued that state-dependent memory plays a role in alcohol blackouts. Memories encoded during extreme intoxication would be difficult to retrieve when the BACs have returned to normal, and hence, amnesia would occur. A shortcoming of this line of reasoning is that alcohol progressively decreases *all* types of nerve cell activity simultaneously. Thus, it is highly unlikely that an alcohol-intoxicated person could engage in complex criminal behaviour, but have no memory of it. Given the widespread knowledge that alcohol reduces inhibitions (Critchlow, 1986),

²Although a cognitive test such as the SVT can be used on its own (100% specificity), a combination with tests that also measure physiological responding (e.g. the Concealed Information Test) yields higher sensitivity. However, there may be practical reasons (e.g. availability of equipment) why only a SVT is used (Meijer et al., 2007).

and the fact that 60–70% of the general population report experience with alcohol intoxication (Van Oorsouw, Merckelbach, Ravelli, Nijman, & Mekking-Pompen, 2004), it is not surprising that offenders use the alcohol-blackout argument for face-saving purposes. However, without objective BAC data, claims of alcohol-related amnesia should be viewed with a healthy dose of scepticism.

What to do?

Malingering is a common phenomenon in those legal quarters where people have vested interests. Not only criminal offenders, but also civil litigants often feign memory problems and other psychiatric or neurological problems because they believe that this may benefit the outcome of their trial. Although in some cases an organic dysfunction or strongly endorsed expectations may underlie claims of amnesia, it is more plausible that such claims are used as a strategy to obtain an economic or legal advantage.

With this in mind, forensic experts facing a case in which a civil litigant or criminal offender is claiming memory loss would be well advised to take the following points into account:

- Forensic experts should be sensitive to base-rate information about medical conditions that might produce bona fide memory loss (e.g. the prevalence of sleepwalking disorders or epilepsy; e.g. Pressman *et al.*, 2007).
- Simulated memory loss is impossible to detect on the basis of an unstructured clinical interview alone (e.g. Rosen & Philips, 2004).
- Forensic experts can use several tests, scales, and tasks to test the authenticity of memory loss claims (e.g. Jelicic & Merckelbach, 2007).
- Not using these tools in fact indicates that the forensic evaluation was carried out incompetently (e.g. Denney & Wynkoop, 2000).
- Experts should not rely on a single test to screen for malingering, but rather should follow the multi-method, multi-task approach that is extensively described in the neuropsychological literature on malingering (e.g. Gorny & Merten, 2005).
- This approach should include both measures that tap the overendorsement of rare symptoms and tasks that tap cognitive underperformance (e.g. Iverson, 1995).
- Including measures of psychopathy in the test battery can be informative (e.g. Salekin *et al.*, 2007).
- Sometimes, administering placebos to manipulate expectancies about memory can also be informative (Van Oorsouw & Cima, 2007).

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