

Chapter 7

**DETECTING AND ASSESSING THE FEIGNING OF
PSYCHOLOGICAL INJURY IN MOTOR VEHICLE ACCIDENTS
(MVAS).**

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ABSTRACT

Bearing in mind that simulation must be suspected in forensic evaluations (American Psychiatric Association, 2002), and that forensic experts are required by courts to assess psychological injury (referred to as “moral damages” in many legislations) in a motor vehicle accident (MVA), a study was designed to assess the feigning of the psychological injury using a cognition task (the forensic clinical interview of Arce and Farina, 2004), and a recognition task, the MMPI-2, the ordinary psychometric instrument used in forensic evaluation (Gudjonsson, 1996; Ackerman and Ackerman, 1993; Butcher and Miller, 1999). A total of 150 subjects lay in psychopathology, responded to the MMPI-2, in line with the standard instructions, no pathology was observed in any of the subjects. Thereafter, to assess the aptitudes and strategies for faking the psychological injury consequence of a MVA, subjects were provided with “malingering instructions”, which consisted of asking them to imagine (in order to get an economical compensation damage) that they had to feign to be victims of a MVA, and should falsely report psychological injuries for which they were going to be evaluated. In order to enhance subject involvement in the study, the feigning of the psychological injury consequence of a MVA was encouraged through an economic incentive consisting of 150 Euros for the five best simulations. Subjects were allowed a one-week period to train themselves in feigning before being evaluated under the “malingering instructions” using the clinical-forensic interview, and responding to the MMPI-2, another week later. The results showed that most of the participants were able to effectively feign the psychological

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injury on the MMPI-2 both in terms of the indirect measures (hypochondria, depression and hysteria) as well as the direct ones, the posttraumatic stress disorder, PS and PK scales. In the cognition task, however, less than 5% of the participants were able to feign the moral damage of a MVA. The analysis of the instruments and procedures for the validation of subject responses revealed that neither the original validity control scales of the MMPI-2 (? , L, F, K Scales), nor its combinations that have been found to be effective for the detection of feigning (Duckworth y Anderson, 1995), the Gough index and the profile “inverted V”, or the analysis of feigning strategies in the forensic clinical interview (i.e., no answers, rare symptoms, symptom combination, obvious symptoms, consistency of symptoms, improbable symptoms, severity of symptoms, subtle-symptoms, improbable symptoms), permit the individual identification of all the feigners. Nevertheless, collectively, all the control measures and procedures were effective for the detection of feigning. Therefore, a protocol based on a multimethod approach for the detection of feigning of moral damage is proposed.

Keywords: feigning, psychological injury, motor vehicle accident (MVA), MMPI-2, posttraumatic stress disorder (PTSD).

FEIGNING AND DETECTION OF PSYCHOLOGICAL INJURY

The incidence of motor vehicle accidents (MVAs) is rising world-wide, and traffic accidents are the main cause of death, particularly among the young, in industrialised society; moreover, the statistics for mortality often obscure the much larger number of serious injuries. A good example is Spain with a population of 45 million inhabitants, and over 4,000 motor vehicle accident (MVA) deaths a year in comparison to 145,000 injuries (Dirección General de Tráfico, 2006). The number of injured in MVAs in the US is estimated to be in the region of 3 million annually (National Highway Traffic Safety Administration, 2003). In most of the developed nations, statutory law stipulates the provisions for compensation for death or injury sustained in MVAs. A victim of a MVAs is defined as any person who has suffered physical or psychological injury (i.e., emotional stress), and/or material loss or damage or a deterioration to their individual rights (United Nations, 1988). Compensation covers not only the victim but also the family of those involved who are also legally entitled to claim compensation (indirect compensation to relatives). Financial compensation for psychological injury or emotional distress is normally covered by the insurance company of the driver responsible for the accident; under some jurisdictions, however, drunk driving is excluded from liability.

The first procedure for claiming compensation is to diagnose and assess the psychological injury sustained in the MVA. The scientific literature has systematically referred to Post-Traumatic Stress Disorder (PTSD) as the psychological disorder most frequently associated to exposure to a broad array of traumatic events or ordeals such as sexual assault (Breslau et al., 1991; Resnick, Kilpatrick, Dansky, Saunders, and Best, 1993), natural disasters (Hodgkinson et al., 1995), mild traumatic brain injury (Bryant and Harvey, 1998), burns victims (Harvey and Bryant, 1999), war veterans (Orcutt, Erickson, and Wolfe, 2004) or MVAs (Blanchard, Hickling, Taylor, and Loos, 1996). Though PTSD is systematically diagnosed as a consequence of a wide range of traumatic experiences, we should bear in mind that it rarely occurs in isolation i.e., 80 to 85% of PTSD concurred with

other clinically diagnosed disorders (Creamer, Burgess, and Mcfarlane, 2001), which may vary in nature and intensity from one patient to another. MVA secondary disorders such as depression, dystimia, anxiety, phobias, and substance or alcohol abuse (Blanchard and Hickling, 2004; Bryant and Harvey, 1995; Fuglsang, Moergeli, and Schnyder, 2004; Maes, Mylle, Delmiere, and Altamura, 2000; O'Donnell, Creamer, and Pattison, 2004; Stallard, Salter, and Velleman, 2004; Taylor and Koch, 1995). Of these, depression is the most frequent comorbid disorder concurring with PTSD i.e., in approximately 50 to 60% of all PTSD diagnosed cases (Blanchard et al., 2004; O'Donnell, Creamer, and Pattison, 2004). In contrast, when depression occurs in the absence of PTSD, it is not understood as an injury derived from a traumatic event (O'Donnell et al., 2006). Moreover, claims for PTSD must fulfil a fundamental legal requirement i.e., a causal relationship between the traumatic event and psychological injury must be established. The prevalence of PTSD as a consequence of a traumatic event is low i.e., The National Comorbidity Survey revealed that only 5% of men 10% of women develop PTSD as a consequence of a traumatic episode (Kessler Sonnega, Hughes, and Nelson, 1995). Moreover, a wide range of symptoms have been reported such as chronic pain where only 10% fulfil the PTSD criteria (Benedikt and Kolb, 1986); 55 to 60% of sexual assaults (Echeburúa and Corral, 1998); and 30 to 50% of cases where pain is the secondary symptom caused by the MVAs (Chibnall and Duckro, 1994; Taylor and Koch, 1995). Likewise, symptoms tend fluctuate through time, O'Donnell, Creamer, Pattison, and Atkin (2004) found that 46% of PTSD cases diagnosed at 3 months after the traumatic event resolved by 12 months, whereas 31% PTSD diagnosed cases at 12 months resolved by 15 months.

Nevertheless, medical-legal evaluation alone is insufficient for diagnosing the disorder or disorders as feigning must always be suspected (American Psychiatric Association, 2000). Traditional clinical evaluation is unsatisfactory for meeting the double objective of clinical diagnosis and the control of feigning since, intrinsically, it does not presuppose feigning from the outset (Rogers, 1997a), and underlines the need for developing multimethod approaches for detecting feigning (Arbisi, 2005; Polusny and Arbisi, 2006; Rogers, 1997b). To this end, a multimethod approach must undertake two tasks: a psychometric evaluation and an assessment interview. The recognition task is carried out using the MMPI-2, an effective instrument well documented in the literature for detecting feigning (Pope, Butcher, and Seelen, 2006). As for the interview, structured interviews have been used such as the Structured Clinical Interview for DSM-IV (SCID-IV) (Spitzer, Williams, Gibbon, and First 1995), Clinician Administered PTSD Scale for DSM-IV (CAPS) (Blake et al., 1998), the Structured Interview for PTSD (SIP) (Davidson, Malik, and Travers, 1997), and the PTSD Symptom Scale-Interview (PSS-I) (Foa, Riggs, Daneu, and Rothbaum, 1993). Both the interview formats and the psychometric evaluation require the participant to identify symptoms that can be easily feigned, and hinders attempts to discriminate true patients from feigners (Arce, Pampillón, and Fariña, 2002).

The purpose of this experimental study, therefore, was twofold. To evaluate the potential for feigning the symptoms of psychological injury sustained in a MVA using a *recognition task* i.e., the MMPI-2, and a *cognition task*, the forensic clinical interview (Arce and Fariña, 2001). The second aim was to assess the potential for detecting feigning using the validity scales of the MMPI-2 and its combinations, the analysis of feigning strategies in the clinical-forensic interview, the inter-measurements consistency, and their accumulative effect.

METHOD

Participants

A total of 150 participants naïve in psychopathology, with no previous history of physical or psychological injury sustained in a traffic accident, 69 men (46%) and 81 women (54%), minimum age was 18 years with an age range 19 to 75 years and a mean age of 32.65 ($SD=10.23$), participated in the study. In professional terms 66.7% (100) were employed, 16% (24) self-employed, 8% (12) students, 4.7% (7) retired, 2.7% (4) unemployed, and 2% (3) others (i.e., entrepreneurs or home-makers). As for cognitive skills, the participants were screened in a previous interview to ensure that they had a minimum ability to feign and suffered neither from brain injury nor neuropsychological deficits. As for academic qualifications, 62.7% had a university education, and the remainder had completed high school.

Design

The research method employed was experimental and under high fidelity feigning conditions. Repeated measurements were performed to assess the ability to feign on the MMPI-2, which is the psychometric instrument of choice for forensic psychological evaluation (Butcher and Miller, 1999), under manipulated “instructions” i.e., response to the MMPI-2 under standard instructions versus feigning instructions for psychological injury. Moreover, performance in differently formatted tasks: recognition task on the MMPI-2 (Hathaway and McKinley, 1999), and a cognition task in the “forensic clinical interview” (Arce and Fariña, 2001) was assessed.

Measurement Instruments

For the cognition task, participants were submitted to a “clinical forensic interview” (Arce and Fariña, 2001). The interview was an adaptation of the enhanced cognitive interview (Fisher and Geiselman, 1992) used in forensic settings by psychologists to get the statement to a clinical setting. The procedure begins by providing a pleasant and relaxed atmosphere in which the purpose of the interview is explained to the participant before proceeding to ask the participant to give an account, using free narrative, of all the things that have changed in their lives (i.e., symptoms, behaviours, thoughts) since the accident (given that the symptoms fluctuate over time, participants were told to mention everything related to the MVA even if they were not present at the time of interview). Thereafter, when necessary, significant contexts were reinstalled (i.e., the V axis of the DSM-IV) for clinical evaluation (i.e., interpersonal relationships, work or academic contexts, and family personal relationships). Finally, the interviewer summarizes the statements of the interviewee, and the interview comes to a close by emotionally defusing the interviewee. An interview format was preferred as opposed to a structured interview such as the Structured Clinical Interview for DSM-IV (SCID-IV) (Spitzer et al., 1995), Clinician Administered PTSD Scale for DSM-IV (CAPS)

(Blake et al., 1998), the Structured Interview for PTSD (SIP) (Davidson et al., 1997) or the PTSD Symptom Scale-Interview (PSS-I) (Foa et al., 1993) as these would facilitate the manipulation of responses on the instruments in which the participants had to recognise the symptoms (recognition task) without having to describe or define any of them (the cognition task). The forensic clinical interview presupposes that injured parties are capable of defining their symptoms, behaviours, and thoughts unless they are unwilling to collaborate with the assessment (the basic feigning strategy described in the DSM-IV-TR), suffer from neurological disorders or are mentally deficient (these contingencies were controlled in our study). In this context, previous studies have shown that the forensic clinical interview is reliable and productive in the forensic context (Arce et al., 2002; Arce, Fariña, Carballal, and Novo, 2006; Fariña, Arce, and Novo, 2004).

The measurement instrument used for the recognition task was the MMPI-2 adapted to the Spanish context by TEA (Hathaway and McKinley, 1999). Bearing in mind our twofold objectives i.e., the clinical measurement of psychological injury directly or indirectly associated to a traffic accident and feigning, ten clinical scales, two supplementary scales for the measurement of PTSD, and the validity scales were assessed. The first basic clinical scales is hypochondria (Hs), which refers to the general physical state, digestion, appetite, sight and sensitivity, and assesses anxiety concerning physical well-being, enables neurotic hypochondriacs to be discriminated from other mental disorders or normal participants. The second, depression (D), evaluates apathy, loss of interest, denial of pleasant experiences and loss of working capacity. The third, conversion hysteria (Hy), is designed to discriminate conversion hysterics from normal participants. The items refer to complaints of an organic nature (muscular, gastrointestinal or cardiac), stress, anxiety or fear. The fourth, psychopathic deviate (Pd), measures psychopathy or an asocial personality and the items refer to family or school adjustment problems, conflict with authority, opposition to social norms/conventions and poor value judgements. The fifth, masculinity-femininity (Mf), is a scale that covers a host of emotional responses, interests, attitudes and feelings concerning work, social relationships and hobbies which are traditionally assigned to either men or women. The sixth, paranoia (Pa), includes items referring to delirium, psychological frailty or acute sensitivity. The seventh, psychastenia (Pt); is a scale to diagnose obsessive-compulsive disorder, and is composed of items concerning anxiety, low self-esteem, doubts about ones own abilities, acute sensitivity and inability to make decisions. The eighth, schizophrenia (Sc), evaluates this disorder and the items refer to distortions or peculiar perceptions, feelings of persecution, social alienation, poor family relationships, absence of sexual drive, loss of concentration, and impulsive behaviour. The ninth, hypomania (Ma), refers to a condition resembling mania but not severe as this would undermine any attempt to assess or examine the patient. The features on this scale refer to accelerated speech, excitability, irritability, flight of ideas, and brief periods of depression as well as elevated moods. The tenth, the social introversion scale (Si), refers to social alienation and reluctance to participate in social activities. In addition, the specific PTSD measurement scale was used i.e., the PK Scale of Keane, Malloy and Fairbank.

The validity control protocol of the MMPI-2 relies on four standard validity scales: Cannot Say (?) Score, K Scale, F Scale, and the L Scale. The interrogative punctuation mark refers to the sum of items left blank or simultaneously marked with both the true and false option which are considered as evidence of feigning i.e., unwillingness to cooperate with the evaluation procedures (American Psychiatric Association, 2000). Protocols with 30 or more omitted items are invalidated though Graham (2006) has argued that this cut-off score is too

extensive and has reduced it to 10. The K Scale (correction factor) is used as a correction scale to raise the discriminatory power of some of the clinical scales on the questionnaire and permits the assessment of the participant's attitude towards the evaluation procedure. In fact, a high score ($T \geq 65$) is characteristic, among other hypothesis, of "defensiveness" whereas as a low score ($T < 40$) is useful to detect participants who feign serious emotional difficulties (Graham, 2006). The L Scale (Lie) was designed to detect individuals who deliberately attempt to unrealistically portray themselves in a socially desirable manner, with a T score greater than 70 as the established cut-off for defensiveness (Graham, 2006). The F Scale (Infrequency) is related to odd and extravagant content, bizarre experiences, lack of concentration, uncommon religious beliefs, antisocial behaviour or paranoid thinking, somatic or sleep disorders, that is, some features rarely attributed to normal people. High scores ($T > 70$) in the Spanish general population correspond to a raw score of 17 (Hathaway and McKinley, 1999), as well as being considered by Bagby, Rogers, Buis and Kalembe (1994) as an optimal cutting score to identify malingerers. Furthermore, the combinations of these validity scales, which have shown to be effective for detecting the feigning of disorders (Duckworth and Anderson, 1995), were assessed i.e., the F-K indices and the "inverted V" profile, the F-K indices, also known as the "Gough indices" that detects attempts to portray a bad image. Though cut-off points have been admitted for each specific setting (Graham, 2006), the average cut-off in raw scores is 12 (Rogers, Sewell, Martin, and Vitacco, 2003). As for the "V inverted" profile, L and K scores below 50 and $F > 80$ scores (Jiménez and Sánchez, 2003), indicate exaggeration of symptoms (Nicholson et al., 1997).

Besides the standard validity scales of the protocol, additional indicators of validity previously associated to malingering in the literature (Berry, Baer, and Harris, 1991; Berry et al., 1996; Dearth et al., 2005; Graham, 2006; Greene, 1997; Jiménez and Sánchez, 2003; Rogers et al., 2003; Rogers, Sewell, and Salekin, 1994) were assessed to determine their effectiveness and the extent to which they were complementary to the former i.e., the Back Infrequency (Fb) Scale, the Gough Dissimulation Scale (Ds) and the Psychopathological Infrequency (Fp) Scale. Raw scores > 7 on the Fp Scale (Rogers et al., 2003); raw scores ≥ 26 (Butcher, Dahlstrom, Graham, Tellegen, and Kaemmer, 1989); and a T score > 70 on the Fb Scale were indicative of malingering.

Finally, the response consistency measurement scales, the TRIN Scale and VRIN Scale, and the absolute value of the difference between F and Fb, $|F - Fb|$ (Greene, 1997) were evaluated. For the detection of feigning, a raw score equal to or greater than 13 on the VRIN and TRIN, a T score > 70 in the Spanish version of the MMPI-2 (Hathaway and McKinley, 1999) was indicative of response inconsistency. The mean and standard deviation $|F - Fb|$ in the normative groups was 2.63 and 2.07, respectively (T_{70} score=6.77).

PROCEDURE

The first step was to instruct participants to respond to the Spanish version of the MMPI-2 (Hathaway and McKinley, 1999) under the "standard instructions" of the MMPI-2 in order to determine their clinical condition. Participants were informed that they would undergo clinical evaluation and that, on request, they would be provided a copy of the report of their clinical condition. All participants voluntarily participated in the study. Participants were

processed individually and, having completed the MMPI-2, participants were informed they would be participating in a study on feigning. Those who consented received “feigning instructions” that required them to imagine they had been involved in a traffic accident and had to simulate or exaggerate psychological injury in order to obtain financial compensation whereas those who preferred not to participate in the study were told they were free to leave. In line with the revision of Rogers (1997c), care was taken to ensure the instructions were readily understood (instructions were previously tested on a control group), as well as being specific and contextualized to MVAs. Moreover, participants were stressed the relevance and impact of the study for detecting false claims (i.e., the costs to the Social Security, insurance companies, and increased insurance fees). Motivation in the feigning task was further raised by offering participants a 150 Euro incentive for each of the four best feigners (an incentive designed to mimic the motives of real feigners). Participants received no coaching instructions but were asked to ensure their presentations were believable and to maximize their performance in the task at hand. Following the instructions, they were given a week to train for the task prior to the evaluation using the forensic clinical interview that was recorded on video for subsequent analysis. Two interviewers gathered the clinical protocols i.e., 50% of the protocols per interviewer. A week later participants were evaluated once again on the MMPI-2 under feigning instructions. Finally, participants were debriefed (i.e., informed about task performance: recall, comprehension, compliance, commitment, and motivation) in order to check participants had understood, correctly performed and committed themselves to the task. The results confirmed that participants had understood the instructions and were committed to the task given that most participants feigned psychological injury on the MVA i.e., they discriminated between expected and unexpected injury, and all reported at least one specific symptom of PTSD in the forensic clinical interview.

Analysis of the Protocols

The free-narrative interviews recorded on video underwent systematic content analysis to identify the diagnostic criteria of psychological injury. The categories for analysis were those described in the DSM-IV-TR (American Psychiatric Association, 2000). The aim was to design a reliable and valid mutually exclusive system of categories i.e., a methodic system of categories Weick (1985). Thus, the categories for analysis correspond to the diagnostic criteria on the DSM-IV-TR though they specifically focused on PTSD which is the psychological disorder sustained in MVA (Note: results referring to other symptoms and diagnosis may be obtained directly from the authors).

The categories endorse two complementary methods: direct expression by the participant, and the encoder’s inferences after analysing the protocols. In other words, the loss of memory may be explicitly manifested by the participant or inferred by the encoder after encoding the interview.

Two encoders were responsible for evaluating the different tasks i.e., the 8 feigning strategies that potential feigner could use as opposed those used in real evaluations. The relevant literature was reviewed for the selection and design of potential categories which provided a mutually exclusive, reliable and valid categorial system (Anguera, 1990). Moreover, the procedure was completed with successive approximations to identify new categories. For this purpose, the encoders employed an open category referred to as “other strategies” which

was used for classifying other feigning strategies observed during the encoding of the interviews. The categories and their corresponding definitions are listed below:

1. No cooperation with the evaluation. This category refers to unwillingness to cooperate or refusal to respond (American Psychiatric Association, 2000; Lewis and Saarni, 1993).
2. Subtle symptoms. Subtle symptoms are not real symptoms, but everyday problems which are regarded as symptoms associated to mental illness (i.e., to be unorganized, lack of motivation, and difficulty in ordinary decision-making) (Rogers, 1990).
3. Improbable/absurd symptoms. Improbable symptoms are fantastic or ridiculous in nature (opinions, attitudes or bizarre beliefs) and do not respond to real referents, with the exclusion of rare symptoms (Rogers, 1990).
4. Obvious symptoms. These are psychotic symptoms related to what is vulgarly known as madness or mental illness (Greene, 1980).
5. Rare symptoms. This category refers to symptoms described by participants but are rarely observed even in real psychiatric populations (Rogers, 1990).
6. Symptom combinations. This indicator of feigning includes real symptoms reported by participants but rarely occur simultaneously (Rogers and Mitchell, 1991) or when the participant describes an indiscriminate array of symptoms that have no internal consistency among them (Rogers, 1988).
7. Severity of symptoms. As the term indicates, the category analyzes the degree of symptom severity. Feigners frequently overexaggerate their symptom severity (Rogers and Mitchell, 1991).
8. Inconsistency of symptoms (observed or manifest). The category analyses the association between the symptoms described by the participant and the encoder's observation regarding the concordance between the symptoms and the participant's attitude, composure and/or behaviour (Jaffe and Sharma, 1998).

Following content analysis of the interviews, the encoders evaluated if the symptoms constituted a disorder and, if so, if the said disorder amounted to psychological injury and in turn if it pertained to PTSD.

Encoder Training

Two encoders with previous experience in encoding the material under study as well as expertise in psychopathological evaluations were responsible for the encodings (Arce et al., 2002; Arce et al., 2006; Fariña et al., 2004). The encoders were exhaustively trained in the encoding system using two encoding manuals. The first included the definitions of the PTSD diagnostic criteria described in the DSM-IV as well as examples for each category under study. The second manual listed the definitions of the categories of analysis for the feigning strategies with examples for each category based on previous studies, and the scale for the *Structured Interview of Reported Symptoms* (SIRS) (Rogers, 1992). Training, prior to encoding, involved presenting and exemplifying each category of analysis using material similar to that under study, and the concordance indices to validate the consistency of the encoders and to correct encoding errors by homogenising criteria.

Analysis of the Reliability of Interviews and Encodings

Both interviewers, who were trained and experienced in interviewing in forensic setting, obtained similar protocols in terms of observed symptoms, $F(1, 148)=0.14$; ns, and detected feigning strategies, $F(1, 99)=0.11$; ns. In short, the interviews were not contaminated by the interviewer factor. Moreover, both interviewers were shown to be consistent and productive in previous studies (e.g., Arce et al., 2002; Arce et al., 2006; Fariña et al., 2004); hence, the protocols obtained are reliable.

As for the encoding of protocols, they were randomly and equally distributed between both encoders. To calculate the intra-encoder reliability, the encoders repeated 20% of their own interviews one week after the original encoding. Similarly, to evaluate the inter-encoder reliability, the encoders analysed 20% of each others interviews after a one-week period.

Table 1. Within- and between-encoder consistency of PTSD criteria and "malingering strategies". Concordance index (CI)

Criteria	Within encoder 1	Within encoder 2	Between encoders 1-2	Between encoders 2-1
Responses involved intense fear	1	1	.92	.92
Recurrent or intrusive recollections of the event	.83	1	.92	.92
Recurrent distressing dreams of the event	1	1	.83	.92
Acting as the traumatic event was recurring	1	1	1	1
Physiological distress at exposure to reminders	.83	.83	.92	.83
Physiological reactivity on exposure to reminders	1	1	1	1
Efforts to avoid thoughts about the trauma	1	.92	1	1
Efforts to avoid places that remind the event	1	1	1	1
Inability to recall part of the event	1	1	1	1
Diminished interest in significant activities	1	.92	.83	.92
Feelings of detachment	.92	.83	.83	.92
Restricted affect	1	1	.92	1
Foreshortened future	1	1	.92	.92
Falling or staying asleep	1	1	1	1
Irritability or anger	.92	1	.92	.92
Difficulty concentrating	.92	.92	.83	1
Hypervigilance	1	1	1	.92
Exaggerated startle response	1	1	.83	.92
Clinically significant distress	1	1	1	1
Symptom combinations	1	1	1	1
Obvious symptoms	1	1	1	1
Subtle symptoms	1	1	1	1
Rare symptoms	1	1	1	1
Improbable/absurd symptoms	1	1	1	1
Severity of symptoms	1	1	1	1

Table 1. (Continued).

Criteria	Within encoder 1	Within encoder 2	Between encoders 1-2	Between encoders 2-1
No cooperation with the evaluation	1	1	1	1
Inconsistency of symptoms	1	1	1	1

Note: Consistency index= Agreements/(agreements + disagreements). The A1 Criterion “the person experienced, witnessed, or was confronted with an event or events that that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others” is assumed, in our study, to be a MVA. Any queries regarding the clinical symptoms of other disorders may be addressed to the authors. In any case, no psychopathic or psychotic symptoms were registered.

Evaluations were considered to be concordant when they were above the .80 cut-off point (Tversky, 1977), which is more restrictive than the kappa values. The results, see table 1, for PTSD criteria and the feigning strategies, have shown to be inter- and intra-encoder consistent both through time and in inter-contexts. Hence, the data is reliable (Wicker, 1975).

RESULTS

Assessment of Feigning on the MMPI-2 Scales

In order to assess the potential for feigning psychological injury as a consequence of a MVA, the responses for the feigning condition were compared with the cut-off point above which one has the “diagnostic impression” that a participant is pathological, 70 in T scores in the normal population ($M=50$; $SD=10$). The results (see table 2) reveal that the scores were equivalent to or significantly higher than the cut-off point in the clinical scales for hypochondriasis, depression, hysteria, psychopathic deviate, paranoia, psychasthenia, schizophrenia and social introversion, and the score for the PTSD PK scale. The results confirmed that participants trained to feign psychological injury reported secondary disorder of psychological injury, that is, depression (i.e., Blanchard and Hickling, 2004; Bryant and Harvey, 1995; Fuglsang et al., 2004; Maes et al., 2000; O'Donnell, Creamer, and Pattison, 2004; Stallard et al., 2004; Taylor and Koch, 1995) as well as the PTSD primary disorder, that is, the PK Scale. Nevertheless, the same results revealed clinical injury in psychopathic deviate, paranoia, schizophrenia, and social introversion, which are not related to the psychological injuries sustained in a MVA. Furthermore, feigners neither exhibited psychological injuries associated to gender disorders (masculinity-femininity) nor hypomania. In other words, feigners were capable of recognising some pathological disorders as being alien to the psychological injuries sustained in a MVA and refrained from declaring these symptoms in a recognition task.

Table 2. T for a sample with a test value of 70. Malingering responses

Clinical scale	t	p	M	SD
Hypochondriasis	8.57	000	80.45	14.93
Depression	9.92	000	79.55	11.78
Hysteria	7.48	000	77.17	11.74
Psychopathic deviate	-1.94	054	68.13	11.80
Masculinity-femininity	-22.02	000	52.79	9.58
Paranoia	3.59	000	74.97	16.98
Psychasthenia	6.49	000	76.03	11.38
Schizophrenia	9.14	000	83.57	18.18
Hypomania	-9.88	000	60.43	11.87
Social Introversion	-1.47	145	68.45	12.93
PK Scale	5.64	000	75.39	11.72

Note: *df* (149).

Assessment of the Instructions Factor on the Clinical Evaluation on the MMPI-2

To determine if the previous results were consequence of the ability of the participants to feign, a MANOVA with the “instructions” factor (standard instructions vs. feigning instructions) in the clinical scales of the MMPI-2, $F_{\text{multivariate}}(10, 140) = 73.46$; $p < .001$; $\eta^2 = .840$; $1-\beta = 1$, was performed. Moreover, the power of the relationship is such that the “instructions” factor explained 84% of the variance.

Table 3. Univariate effects on the basic clinical scales of the MMPI-2 by the “instructions” factor. Within effects

Clinical scale	MS	F	p	Eta ²	M _{si}	M _{mi}	1-β
Hypochondriasis	69585.87	465.48	000	758	49.99	80.45	1
Depression	70533.33	501.27	000	771	48.88	79.55	1
Hysteria	52907.52	542.34	000	784	50.61	77.17	1
Psychopathic Deviate	18502.45	189.69	000	560	52.42	68.13	1
Masculinity-Femininity	456.33	10.71	001	067	50.32	52.79	902
Paranoia	47075.21	283.91	000	656	49.92	74.97	1
Psychasthenia	52087.36	468.77	000	759	49.67	76.03	1
Schizophrenia	87278.96	432.418	000	744	49.45	83.57	1
Hypomania	4977.61	67.37	000	311	52.28	60.43	1
Social Introversion	31518.75	252.76	000	629	47.95	68.45	1

Note: *df* (1,149).). M_{si}= Mean of standard instructions. M_{mi}= Mean of malingering instructions.

The univariate effects, see table 3, indicate that the participants increased their scores in terms of pathology in all of the clinical measurements in the “feigning instructions” condition, in contrast to the low response for the “standard instructions”, where clinical normality was observed (Ms above 50 in T scores). Likewise, the case study informed of no pathology among the participants under “standard instructions”. Though the participants employed a

general feigning tactic “the general endorsement of symptoms”, it was not systematic (i.e., pathologies related to gender or hypomania were not endorsed).

With regards to the direct measurement of PTSD, a significant increase mediated by the instructions factor was observed in the PK Scale (see table 4). Succinctly, under the standard instructions no PTSD was observed ($M = 50.15$), that is, the participants were healthy in terms of this disorder. In comparison, in the feigning condition a significant increase in the values of this disorder was observed which was within the region of pathology ($T \geq 70$). In addition, the case study showed that participants under the “standard instructions” condition did not report PTSD whereas under the “feigning instructions” 67.3% reported psychological injury as a consequence of a MVA (T score > 70) both on the direct measurement of injury (scale PK) as in the indirect ones (i.e., depression). Bearing in mind that participants had not previously suffered from this disorder, the data confirmed that participants were able to feign direct psychological injury underlying the effect was entirely due to their ability to feign.

Table 4. Within effects on the PTSD scale by the “instructions” factor

Scale	MS	F	p	Eta ²	M _{si}	M _{mi}	1- β
PK Scale	47779.32	476.17	.000	.762	50.15	75.39	1

Note: $df(1,149)$.). M_{si} = Mean of standard instructions. M_{mi} = Mean of malingering instructions.

Assessment of Feigning on the MMPI-2 Validity Scales

Assessment of the Change in the MMPI-2 Standard Validity Scales.

The multivariate analysis shows that the response validity control scales were sensitive to manipulation by the feigning factor (standard instructions vs. feigning instructions), $F_{\text{multivariate}}(4,146) = 52.18$; $p < .001$; $\eta^2 = .588$; $1-\beta = 1$. Besides the significant effect, this factor was found to explain nearly 60% of the variance.

Table 5. Univariate effects in the MMPI-2 standard validity scales mediated by the “instructions” factor. Within-subjects effects

Standard validity scale	MS	F	p	eta ²	M _{si}	M _{mi}	1- β
No answers scale	74.00	15.76	.000	.096	2.05	1.06	.976
Lie scale (L)	53.76	0.85	.358	.006	48.45	49.29	.150
Frequency scale (F)	76384.56	193.33	.000	.565	49.30	81.21	1
K Factor	3633.12	71.52	.000	.324	49.77	42.81	1

Note: $df(1,49)$.). M_{si} = Mean of standard instructions. M_{mi} = Mean of malingering instructions.

The univariate comparisons (see table 5) show a significant increase in the F Scale values (Incoherence), a low score in the K Scale (Factor Corrector), a decrease in the ? Scale (Cannot Say) from the standard instructions to the feigning instructions, whereas the L scale

(Lies) remained constant. The results suggest a possible functionality of P, F and K validity scales in the forensic context.

Assessment of the Statistical Power and the Clinical Classification of the Standard Validity Scales

Having assessed the potential of these validity scales for detecting feigning of psychological injury in MVA, the next step was to determine statistical power and directionality of sensitivity to feigning, as well as the robustness in case classification i.e., designs of $n=1$ which are characteristic of forensic settings.

The criminological model explaining feigning assumes a basic no-response feigning strategy or unwillingness to cooperate with the evaluation (Lewis and Saarni, 1993; American Psychiatric Association, 2000). On the MMPI-2 this is measured by the Cannot Say Scale, with no-response to 30 or more items as the cut-off for annulling the protocol. In our study, none of the participants in the low response condition “feigning instructions”, was detected by this indicator as a feigner. In fact, the statistical tendency showed a low number of no-response items in the feigning condition (see table 5). Hence, none of the protocols was abandoned due to the lack of cooperation in responses under the standard instructions condition.

In the L validity scale, which is not a measurement of overreporting but of underreporting, very high scores ($T \geq 70$) indicated that the participant was manipulating their image towards social desirability. Obviously, this strategy is contrary to the interests of feigner who would not be expected to follow this tendency i.e., have high scores on this dimension, that is, avoid manipulating responses towards social desirability, ($M = 49.29$; $SD = 9.55$), $t(149) = -26.56$; $p < .001$. The case study showed that 6 (4%) of the protocols obtained under feigning instructions and 6 (4%) under standard instructions had responses indicative of social desirability i.e., in terms of this indicator they would be concealing symptoms. Thus, the response of feigners was not contaminated or bias toward social desirability, but the responses towards social desirability were not a reliable indicator of non-feigning as they are observed equally under both standard and feigning instructions implying this scale was entirely unproductive for the detection of feigning.

The comparison of the mean observed in the F Scale ($M = 81.21$; $SD = 27.04$), with a cut-off beyond which one obtains the “diagnostic impression” of feigning ($T \geq 70$), indicates it was a reliable feigning indicator, $t(149) = 5.08$; $p < .001$. The case study revealed that 87 (58%) of feigners were correctly classified by this scale (true positives). However, this feigning indicator did not correctly classify better than random, $\chi^2(1, N=150) = 3.84$; $p < .05$. Nevertheless, the margin for false negatives (not identified as feigners under the feigning-instructions condition), 41.3% ($n=62$), was considerably high and exceeded the statistically admissible margin of error (.05), $Z(N=150) = 23.2$; $p < .001$. As for the responses under standard instructions, this scale produced 3 (2%) false positives ($T > 70$), resulting in a net efficacy (true positives – false positives) of 56%.

The comparison of the mean of the K scale responses under the feigning condition ($M = 42.81$; $SD = 9.13$), with a cut-off for feigning of ($T < 40$), indicated that it was not statistically effective for the detection of feigning, $t(149) = -3.76$; $p < .001$. As for the case study, it correctly classified as feigners 38% ($n=57$) of participants underlying it was a

reliable feigning indicator, $\chi^2(1, N=150) = 8.64$; $p < .01$. As for the evaluation of false positives (detection of feigning in honest responses), the protocols under the standard instructions indicated that 18 (12%) were classified as potential feigners on the K Scale. Thus, the net efficacy (true positives – false positives) of the K Scale for the detection of feigning was approximately 25%. Likewise, the case study revealed that none of the participants in the feigning condition obtained a T score equal to or greater than 70, that is, no attempt to feign a socially desirable image.

Configurations of the Validity Scales

Besides the standard validity scales of the MMPI (e.g., α , L, K and F), several combinations of these scales have been proposed for the assessment of the validity protocols. Initially, they constitute robust indices for validating or invalidating results obtained with the protocol. Two combinations of the validity indices for the detection of feigning have proven to be effective (Duckworth and Anderson, 1995) i.e., the F-K Index or Gough Dissimulation Index and the “V inverted” profile. Our data shows that the mean score obtained in raw scores was greater than 12 ($M = 20.41$; $SD = 32.09$), $t(150) = 3.21$; $p < .05$. Nonetheless, the case study revealed that the Gough index correctly classified 57.3% (86) of the feigners, indicating it was robust, $\chi^2(1, N=150) = 3.23$; ns , given that the correct classification value was close to random. Conversely, the Gough index erroneously classified as feigners under the standard instructions condition only one participant (0.7%), with a net efficacy (true positives – false positives) of 56.6%. As for the “V inverted” profile (e.g., scores in L and K below 50 and $F > 80$ scores), it was a useful indicator for detecting symptom exaggeration. This index revealed that only 59 (39.3%) feigners were correctly detected, that is, 45 (30%) underlying that it was a considerably less effective indicator than random, $\chi^2(1, N=150) = 24$; $p < .001$. Notwithstanding, this index did not produce false alarms, that is, identify as feigners participants with honest responses (standard instructions). In short, though the “inverted V” profile was not a robust indicator of feigning, it did not generate false positives (classify responses honest as feigning). Thus, the combinations of indices was not effective for the detection of feigning psychological injury in MVAs, but the number of false positives generated was practically zero.

Assessment of Scales Additional to the Standard Validity Scales of the MMPI-2 for Detecting Overreporting

In the Fb Scale, significant differences mediated by the instructions factor (see table 6) were observed i.e., under the feigning instructions the Fb values were higher. The comparison of the theoretical cut-off value for feigning ($T=70$) with the mean obtained for the “feigning instructions” condition ($M = 79.61$; $SD = 25.86$), showed that this feigning indicator was statistically reliable, $t(149) = 4.55$; $p < .001$. In the case study, 84 feigned responses (56%) were detected, that is, this scale failed to correctly classified better than random (.50), $\chi^2(1, N=150) = 2.16$; ns , and the probability of generating false negatives (.44) was significantly greater than is statistically admissible (.05), $Z(N=150) = 21.91$; $p < .001$. As for the number of

false positives, the Fb Scale classified 3.3% of honest responses ($n=5$) as feigned, the net efficacy (true positives – false positives) being around 53%.

The Fp scale was sensitive to the instructions factor (see table 6), that is, the Fp values were significantly greater for the feigning condition. Nonetheless, the comparison of the mean for the feigning condition ($M=6.11$; $SD=4.56$) with the cut-off point for feigning (raw score >7), showed that the Fp scale was not a reliable indicator for feigning, $t(149) = -2.40$; $p < .05$. The case study correctly classified 32.7% ($n=49$), of feigners i.e., it classified feigning less effectively than random (.5), $\chi^2(1, N=150) = 18.03$; $p < .001$. Thus, the probability of generating false positives (classifying participants in the standard condition as feigners), was considerably low, 0.7% ($n=1$), resulting in a net efficacy (true positives – false positives) of 32%.

Table 6. Univariate effects in the additional scales of the MMPI-2 mediated by the “instructions” factor. Within-subjects effects

Additional validity scale	MS	F	p	eta ²	Msi	Mmi	1- β
F back infrequency (Fb)	360.09	195.28	.000	.567	48.99	79.61	1
Infrequency psychopathology (Fp)	1399.68	110.44	.000	.426	1.79	6.02	1
Gough Dissimulation (Ds)	26545.61	439.31	.000	.747	12.63	31.44	1

Note: $df(1,149)$.). M_{si} = Mean of standard instructions. M_{mi} = Mean of malingering instructions.

The instructions factor (responses on the MMPI-2 under the standard instructions vs. feigning instructions) exhibited significant differences (see table 6) in the Gough Dissimulation Scale (Ds), that is, the values for the Ds Scale were higher for the feigning condition. The comparison of the Ds Scale values for the feigning condition with cut-off for feigning (raw scores ≥ 26) showed that the Ds Scale was a reliable feigning indicator, $t(149) = -6.38$; $p < .001$. The case study showed that the Ds Scale correctly classified 70.7% ($n=106$), of feigners, that is, better than random (.5), $\chi^2(1, N=150) = 25.63$; $p < .001$, though the probability of generating false negatives (.293) was greater than is statistically admissible (.05), $Z(N=150) = 13.65$; $p < .001$. In the standard instructions condition, the Ds Scale incorrectly classified as feigners (false positives) 3.3% ($n=5$) of participants. Hence, the net efficacy of the Ds Scale was around 67.4%.

Measurements of Response Inconsistency

The TRIN and VRIN validity scales and the F-Fb index (see table 7) were not sensitive to the instructions factor and the case study did not invalidate any of the protocols in the feigning condition for being inconsistent responses. In short, the responses of feigners were consistent.

Table 7. Univariate effects in the inconsistency measures of the MMPI-2 mediated by the “instructions” factor. Within-subjects effects

Inconsistency measure	MS	F	p	eta ²	Msi	Mmi	1-β
TRIN	363.00	5.04	.026	.033	50.85	48.65	.607
VRIN	0.16	0.00	.964	.000	49.28	49.23	.050
F-Fb	125.45	2.99	.086	.020	0.31	1.60	.405

Note: $df(1,149)$.). M_{si} = Mean of standard instructions. M_{mi} = Mean of malingering instructions.

Global Assessment of the MMPI-2 Validity Indicators for the Detection of Feigning

Given that the individual efficacy of each of the different measurements of feigning on the MMPI-2 was considerably limited, the accumulative effect of these indices and their configuration were evaluated. The results, the contingencies of which can be seen in table 8 for the standard MMPI-2 scoring (F, K, Fb, F-K, and the “inverted V” profile) and table 9, for all the MMPI-2 overreporting measures (F, K, F-K, the “inverted V” profile, and Ds and Fp), showed that 2 or 3 feigning indicators for the standard MMPI-2 scoring and all the overreporting measures, respectively were observed in the honest responses. Therefore, to avoid false positives (the classification of honest responses as feigned), at least 3 standard MMPI-2 scores, or 4 if all overreporting measures are assessed, should be verified to detect feigning. This would raise the correct classification of feigning to 54%, both in the standard scales as in the feigning scales, in other words, the validity scores would correctly discriminate between feigned and honest responses and prevent the classification of 50% of the feigned responses as false positives, $\chi^2(1, N=150)=0.96$; ns.

Table 8. Standard MMPI-2 scores and the number of malingerers detected

Indices	Malingering answers	Honest answers
0	55(36.7%)(36.7%)	129(86%)(86%)
1	4(2.7%)(39.3%)	15(10%)(96%)
2	10(6.7%)(46%)	6(4%)(100%)
3	21(14%)(60%)	
4	28(18.7%)(78.7%)	
5	32(21.3%)(100%)	

Note: The standard MMPI-2 scores for detecting overreporting are: F, K, Fb, F-K, and the “inverted V” profile.

Table 9. All overreporting scores and the number of malingerers detected

Indices	Malingering answers	Honest answers
0	38(25.3%)(25.3%)	127(84.7%)(84.7%)
1	18(12%)(37.3%)	15(10%)(94.7%)
2	3(2%)(39.3%)	6(4%)(98.7%)
3	10(6.7%)(46%)	2(1.3%)(100%)
4	10(6.7%)(52.7%)	
5	30(20%)(72.7%)	
6	17(11.3%)(84%)	
7	24(16%)(100%)	

Note: Overreporting scores considered: F, K, Fb, F-K, “inverted V” profile, Ds and Fp

Assessment Feigning in Cognition Task: The Clinical-Forensic Interview

In the feigned responses/statements of psychological injury associated to a MVA (see table 10), the participants unexpectedly endorsed PTSD criteria (the probability of a statistically admissible error .05), that is, symptoms accessible to feigning: a) responses to the event involve intense fear, helplessness or horror; b) recurrent or intrusive recollections of the event; c) recurrent distressing dreams of the event; d) acting as the traumatic event was recurring; e) physiological distress at exposure to reminders; f) physiological reactivity on exposure to reminders; g) efforts to avoid places, feelings or persons that remind the event; h) markedly diminished interest or participation in significant activities; i) feelings of detachment; j) restricted range of affect; k) falling or staying asleep; l) irritability or outbursts of anger; m) difficulty concentrating; and n) clinically significant distress. In short, in terms of the DSM-IV-TR diagnostic evaluation of PTSD, participants were able to feign Criterion A (i.e., the accident itself; responses to the event involve intense fear, helplessness or horror); five symptoms of Criterion B (i.e., recurrent or intrusive recollections of the event; recurrent distressing dreams of the event; acting as the traumatic event was recurring; physiological distress at exposure to reminders; physiological reactivity on exposure to reminders;); four symptoms of Criterion C (i.e., efforts to avoid places, feelings or persons that remind the event; markedly diminished interest or participation in significant activities; feelings of detachment; restricted range of affect); three symptoms of Criterion D (i.e., falling or staying asleep; irritability or outbursts of anger; difficulty concentrating;); and the Criterion F (clinically significant distress). Thus, the criteria of A (both symptoms), B (more than one symptom), C (three or more symptoms), D (one or more), and F were susceptible to feigning i.e., in broad terms, the secueli of PTSD resulting from a MVA could be feigned in a cognition task.

In addition, the above data (see table 10) illustrates that certain symptoms were not open to feigning ($p \leq .05$) i.e., efforts to avoid thoughts, feelings, or conversations about the trauma; inability to recall an important aspects of the event; hypervigilance; and exaggerated startled responses.

The case study revealed that 7 (4.7%) of the participants were effective at feigning the symptoms associated to psychological injury sustained in a traffic accident i.e., PTSD. In short, the ability to feign in the recognition task was similar to the statistical significance (.05)

and the difficulty to feigning was greater in the cognition task (.047%) than in recognition task (.673), $Z(N=150) = 35.16$; $p < .001$.

Table 10. Analysis of the accessible and subtle symptoms

VARIABLE	Observed proportion	Z	p
CRITERION A			
Responses involved intense fear	287	13.31	.001
CRITERION B			
Recurrent or intrusive recollections of the event	267	12.19	.001
Recurrent distressing dreams of the event	313	17.58	.001
Acting as the traumatic event was recurring	613	31.62	.001
Physiological distress at exposure to reminders	433	21.52	.001
Physiological reactivity on exposure to reminders	413	20.39	.001
CRITERION C			
Efforts to avoid thoughts about the trauma	052	0.11	ns
Efforts to avoid places that remind the event	320	15.17	.001
Inability to recall part of the event	.0		
Diminished interest in significant activities	540	27.52	.001
Feelings of detachment	727	38.03	.001
Restricted affect	460	23.03	.001
Foreshortened future	420	20.79	.001
CRITERION D			
Falling or staying asleep	427	21.18	.001
Irritability or anger	527	26.80	.001
Difficulty concentrating	500	25.28	.001
Hypervigilance	013	-2.07	.05
Exaggerated startle responses	033	.000	ns
CRITERION F			
Clinically significant distress	900	47.75	.001

Note: $df(1)$. The Criterion A1 “the person experienced, witnessed, or was confronted with an event or events that that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others” is assumed, in our study, that is a MVA.

Assessment of Feigning Strategies in the Forensic Clinical Interview

It is worth noting that none of the participants used the general strategy described in the criminological model (American Psychiatric Association, 2000) i.e., “no cooperation with the evaluation” (as measured by avoiding evaluation or non-response) and, contrary to the proposition of Lewis and Saarni (1993), no lack of consistency in symptoms was found in any of the evaluations of the participants or in the encoders observations. Among the productive categories (see table 11), reference to obvious symptoms, that is, symptoms commonly associated with madness (Greene, 1980), provided an effective tool for detecting feigners of traffic accidents. Moreover, feigners described subtle symptoms (i.e., stated they suffered from everyday problems which are not specific to psychological injury caused by an MVA), and bizarre symptoms, that is, symptoms hardly observed even among psychiatric populations. Furthermore, feigners used *symptom combinations*, a strategy which entails indiscriminately grouping symptoms or reporting symptoms that rarely occur simultaneously. The results also showed that feigners endorsed improbable symptoms (reporting fantastic or ridiculous symptoms). Finally, feigners reported a high degree of symptom severity. In short, a significant use ($>.05$) of feigning strategies such as “obvious symptoms”, “subtle symptoms”, “bizarre symptoms”, and symptom severity (see table 11) was observed among feigners; conversely, they hardly used ($p \leq .05$) “symptom combinations” and “improbable symptoms” strategies. On the whole, the participants used some of the common feigning strategies in 78.7% of the protocols which underlines that this feigning indicator was more reliable than random ($p = .5$), $\chi^2(1, N=150) = 49.31$; $p < .001$.

Table 11. Z scores for the strategies observed with a test value of .05

Strategy	Observed proportion	Z	p
Obvious symptoms	267	12.19	.001
Subtle symptoms	680	35.39	.001
Rare symptoms	120	3.93	.001
Symptom combinations	004	-0.56	ns
Improbable/absurd symptoms	004	-0.56	ns
Severity of symptoms	220	9.55	.001

Note: $df(1)$. The strategies “no cooperation with the evaluation” and “inconsistency of symptoms” were unproductive.

Global Assessment of Feigning Detection

The case study showed that 7 participants who managed to feign PTSD in the interview, were also able to feign PTSD on the PK scale of the MMPI-2 as well as the secondary effect (depression). In other words, 7 participants effectively feigned psychological injury on the inter-instrument measurements of psychological injury; nevertheless, the inter-instrument consistency was not absolute. Moreover, in the psychometric measurement they also feigned unexpected clinical injuries that were not corroborated in the forensic clinical interview (paranoia, schizophrenia, psychopathic deviate). Finally, all 7 participants were detected as feigners by the internal consistency measurements of the interview (i.e., subtle symptoms,

bizarre symptoms, symptom combination) as well as by the psychometric instrument (F, K, Fb, F-K, “inverted V” profile, Ds, and Fp); thus, at least 6 of these indicators detected feigning.

DISCUSSION

Prior to drawing conclusions and assumptions from the results, three limitations of this study should be addressed. First, the participants were not undertaking a real-life task i.e., they were neither suffering from injuries sustained in a traffic accident nor seeking financial compensation; hence, they were not feigners in a real context. Though care was taken to ensure the participants had fully understood and executed the task correctly to maximize commitment to the task at hand, generalizations extended to real contexts should be cautious (Konecni and Ebbesen, 1979). Second, as all of the participants under study were feigners, and no comparison was drawn with real patients suffering from PTSD caused by an MVA. Hence, the findings and subsequent generalizations are restricted to participants with a pre-morbid state of normality. Third, given that the injuries sustained by a victim vary according to the nature of the incident they encounter, feigners will also adopt strategies fitting the circumstances. Thus, the results cannot be extrapolated to other forensic contexts other than MVAs (Koch, Douglas, Nicholls, and O’Neill, 2006; O’Donnell et al., 2006).

Bearing in mind the previously mentioned limitations, the following conclusions may be drawn:

1. The feigning of psychological injury sustained in a MVA on the MMPI-2 is quite easy (67.3%), and undermines the value of this instrument for assessing psychological injury. Similarly, feigning has been systematically observed in symptom recognition tasks such as checklists, structured interviews or psychometric instruments (i.e., Burges and McMillan, 2001; Less-Haley and Dunn, 1994). Thus, the symptom recognition task of psychological injury does not provide valid and sufficient evidence for forensic evaluation.
2. Feigned responses on the MMPI-2 were not inconsistent (VRIN, TRIN and F-Fb indices), that is, feigners were not only capable of feigning psychological injury, but were also able to provide consistent responses. In other words, feigners undertaking a recognition task adopted the content-responsive faking (CRF) strategy (Nichols, Greene, and Schmolck, 1989) i.e., they evaluated if the content of each item was favourable or unfavourable for creating a good impression of psychological injury caused by an MVA.
3. Contrary to the predictions of the criminological model (Lewis and Saarni, 1993; American Psychiatric Association, 2000), feigners adopted a strategy of cooperation during the evaluation both on the MMPI-2 (none of the protocols included 10 or more non-responses) and the forensic clinical interview (all of the protocols included at least one PTSD symptom).
4. Of all the overreporting scores of the MMPI-2 for detecting overreporting (i.e., F, K, Fb, F-K, “inverted V” profile, Ds, and Fp) only the F Scale (56%), F-K (56.6%); Fb Scale (53%), and Ds Scale (67.4%) proved to be effective for discriminating between

honest and feigned responses greater or equal to 50%; nonetheless, a margin of false positives is inadmissible. This underlined the need for an accumulative assessment of feigning indicators.

5. To discriminate between honest and feigned responses and ensure false positives were not generated, at least 3 feigning indicators of the standard MMPI-2 for detecting overreporting (i.e., F, K, Fb, F-K, the “inverted V” profile), or 4 if all overreporting measures are considered, must be verified. Nevertheless, these decision criteria would only detect 54% of feigners while generating false positives i.e., classifying as feigners real cases psychological injury caused by a MVA. Consequently, the scores for detecting malingering on the MMPI-2 did not provide valid and sufficient evidence for legal purposes.
6. The ability to feign in the forensic clinical interview was low as feigners underwent a symptom recognition task which hindered the possibility to emulate PTSD. Conversely, real patients report were able to report symptoms but may failed to provide a full account of these symptoms unless the forensic clinical interview is not adequately undertaken.
7. The assessment of the internal consistency of the interviews via feigning strategies proved to be a reliable feigning indicator as it correctly classified 78.72% of the protocols. Nevertheless, this indicator was not satisfactory for forensic purposes as it not only failed to ensure that false negatives were not generated, but produced more false negatives than is statistically admissible (.21).
8. In terms of forensic requirements, the forensic clinical interview and the control of internal consistency were not completely reliable as they admitted the probability of false positives (.047). Thus, the evaluation of psychological injury and the control of feigning require a multimethod approach.
9. The multimethod approach (psychometric evaluation using the MMPI-2 and the forensic clinical interview) introduced a further evaluation criterion i.e., inter-measurement consistency. The results showed effective feigners of psychological injury in the forensic clinical interview were also effective on the MMPI-2, but were not consistent in other disorders.
10. A multimethod approach permits the detection of all feigners but the number of real cases of psychological injury would remain uncertain. Consequently, the practitioner must be cautious to avoid false positives (i.e., classify a real case as a feigner) by checking the Clinical Decision Model for Establishing Malingering (Cunniem, 1997); double checking in the forensic clinical interview of PTSD symptoms (i.e., efforts to avoid thoughts, feelings, or conversations about the trauma, inability to recall an important part of the event; hypervigilance; and exaggerated startle responses) or the presence of non-feigning positive criteria on the MMPI-2 ($K \geq 70$, profile V inverted).

In conclusion, the forensic judgement rests finally on the practitioner who should assess psychological injury using a multimethod approach based on both methods (i.e., tasks). When claims of psychological injury sustained in a MVA are verified by both methods, the practitioner's judgement should take into account all the measurements of consistency (i.e., all the overreporting scores on the MMPI-2, the feigning strategies in the forensic clinical interview; and the inter-instrument consistency of the reported clinical state). Passing these

controls entails that the forensic judgement concludes that the psychological injury has been consistently verified. In order to fulfil the legal requirement of establishing a causal effect between the MVA and psychological injury, the practitioner must establish, in the forensic clinical interview, a casual nexus between the symptoms reported and their cause. Finally, before rejecting a claim on the grounds of feigning, the practitioner must screen for false positives.

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