Psychiatry Research 176 (2010) 75–81

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Detecting faked psychopathology: A comparison of two tests to detect malingered psychopathology using a simulation design

Karen Sullivan *, Joanne King

School of Psychology and Counselling, Queensland University of Technology, Carseldine, Queensland 4034, Australia
Institute of Health and Biomedical Innovation, Queensland University of Technology, Carseldine, Queensland 4034, Australia

ARTICLE INFO

Article history:
Received 18 January 2008
Received in revised form 14 May 2008
Accepted 23 July 2008

Keywords:
Malingering
Dissimulation
Motivation
Test operating characteristics
Sensitivity
Specificity
Base rates

ABSTRACT

Malingered psychopathology has the potential to be a costly social problem and there is a need for studies that compare the malingering detection capabilities of tests of psychopathology. This study investigated the capacity of two measures to detect simulated psychopathology. Forty-one first-year psychology students were randomly allocated to experimental groups that included malingering and control conditions. Analogue malingerers were given a financial incentive to simulate believable psychological impairment. Controls received standardised test instructions and the prize incentive, contingent on good effort. In a between-group simulation design, group differences on the Personality Assessment Inventory (PAI) and the revised Symptom Checklist-90 (SCL-90-R) were assessed. Group comparisons revealed elevation of the majority of clinical index scores among malingerers and a consistent pattern of results across tests. Analysis of the test operating characteristics of the malingering indices for these measures revealed superior detection of simulated malingering using the PAI, particularly Rogers' Discriminant Function, although classification accuracy of all malingering indexes was improved when adjusted cut-offs were used. Overall, results from this study demonstrate the vulnerability of the PAI and (SCL-90-R) to simulated psychopathology, but also the capacity of these measures to detect such performance when specific indexes are used.

1. Introduction

There is a growing body of literature documenting the prevalence of malingered psychopathology (Larrabee, 2003) and the vulnerability of measures of psychopathology to faked or exaggerated performance (Bagby et al., 2002). Several studies have demonstrated that a range of psychopathologies can be faked by simulating malingerers (Lees-Haley and Dunn, 1994; Baity et al., 2007; Bowen and Bryant, 2006). These disorders include major depression, post-traumatic stress disorder (PTSD), and generalised anxiety disorder. The extent to which other psychopathologies can be faked has not been as thoroughly investigated, and there is a need to determine the vulnerability of a broader range of psychopathologies than has occurred to date.

The significance of studies investigating the vulnerability of psychopathologies to faked performance can be demonstrated by considering the case of PTSD. This disorder is frequently claimed as a defence in criminal settings (Sparr and Atkinson, 1986; Hall and Hall, 2006) and is compensable in personal injury and disability compensation cases (Resnick, 1993). Studies of the extent to which PTSD can be faked suggest spurious compensation claims for PTSD are common, particularly when there are strong incentives to malinger (Lees-Haley, 1992; Calhoun et al., 2000). The prevalence of faked PTSD has been estimated at 20% to 30% in veterans seeking disability compensation (Frueh et al., 1997) and up to 50% in other samples (Hall and Hall, 2006). Given that other susceptible psychopathologies, such as depression (Repko and Cooper, 1983; Lees-Haley, 1997) and pain/somatisation (McGuire and Shores, 2001), are also likely to be reported in workers compensation or personal injury claims, the overall potential costs of failing to detect faked psychopathology are likely very high.

The vulnerability of psychopathologies to faking might partly depend on how easily they can be simulated. In the case of PTSD, this disorder is regarded as relatively easily faked (Calhoun et al., 2000; Hall and Hall, 2007). Naïve participants can readily identify the symptoms of PTSD (Lees-Haley, 1997; Burges and McMillan, 2001). Similarly, the ease of faking other types of psychopathology, such as depression (Lees-Haley, 1997; Walters and Clopton, 2000), pain/somatisation (McGuire et al., 2001), and to a lesser extent, psychoticism (Albert et al., 1980) has also been reported.

Several reasons have been postulated to account for the ease with which some types of psychopathology can be faked. First, the format of some measures of psychopathology may contribute to their vulnerability (Aubrey et al., 1989): Measures of psychopathology that rely on the presentation of symptom checklists may prompt malingerers to endorse symptoms they may not otherwise report, whilst the subjective nature of psychopathology increases the difficulties in proving malingering (Sbordone et al., 2000). Second, the general level of community awareness of some psychological disorders may increase the risk of malingering associated with these disorders. Previous studies have shown that malingering success in depression can be enhanced by symptom knowledge and experience (Steffan et al., 2003), and given that depression

* Corresponding author. School of Psychology and Counselling, Queensland University of Technology, Carseldine, Queensland 4034, Australia. Tel./fax: +61 7 3138 4660.
E-mail address: ka.sullivan@qut.edu.au (K. Sullivan).

0165-1781/$ – see front matter.
doi:10.1016/j.psychres.2008.07.013

accounts for a high proportion of the total burden of disease borne by the community (Usten et al., 2004), it is perhaps unsurprising that individuals can easily simulate depression. Third, the availability of information that could assist individuals motivated to fake has been noted as another reason for the vulnerability of these disorders to exaggeration. This excludes instances of specific coaching on disorder symptoms that may be provided by lawyers or others (Victor and Abeles, 2004). Individuals can access the formal diagnostic criteria for various psychopathologies and may become familiar with disorders of interest given the abundance of information available in the popular media (Lees-Haley and Dunn, 1994) and via the internet (Ruiz et al., 2002). It is important to know the relative vulnerability of various measures of psychopathology to malingering so that clinicians can select the most resistant tests available, particularly when assessments involve disorders associated with higher malingering prevalence (see Mittenberg et al., 2002) and in circumstances where strong malingering incentives exist (i.e., medico-legal contexts).

A number of tests of psychopathology have been developed that include validity scales designed to detect deceptive, bizarre, discrepant or rare responding. In some cases, several validity indices exist for a single test (e.g., the Personality Assessment Inventory), but very few comparative studies of the utility of measures within and between tests have been undertaken (for an exception, see Braxton et al., 2007). Therefore, the aim of the present study was to assess the relative diagnostic validity of malingering indices from two measures of psychopathology in the detection of simulated malingering.

2. Method

2.1. Participants

Participants were first-year psychology students who received course credit for participation. The sample comprised 30 (73%) females and 11 (27%) males with a mean age of 25 years (S.D. = 10; range = 17–56 years). The majority of participants were from English-speaking backgrounds (85%), with no self-reported history of mental illness (76%). There were no significant differences between experimental groups as a function of age, $F(1, 39) = 3.438$, $P > 0.05$, sex, $\chi^2(1, N = 41) = 0.005$, $P > 0.05$, ethnicity, $\chi^2(1, N = 41) = 2.489$, $P > 0.05$, or psychological history, $\chi^2(1, N = 41) = 0.992$, $P > 0.05$.

2.2. Materials

Participants completed two measures of personality and psychopathology, the Personality Assessment Inventory (PAI; Morey, 1991) and the Symptom Checklist-90 Revised (SCL-90-R; Derogatis, 1992). The PAI is a 344-item, self-report inventory measuring clinical and personality variables (see Kurtz and Blais, 2007). This test is considered "acceptable" by forensic psychologists for a wide range of purposes, including the assessment of malingering (Lally, 2003), and its utility as a measure of psychopathology in traumatic brain injury was recently demonstrated (Demakis et al., 2007). The PAI has the following 22 scales: 11 clinical, two interpersonal, five treatment-related and four validity scales. The clinical syndromes assessed are somatic complaints, anxiety, anxiety related disorders, depression, mania, paranoia, schizophrenia, borderline features, antisocial features, and alcohol and drug problems. Participants rated each item on a four-point ordinal scale ranging from F (*false, not at all true*) to VT (*very true*).

For this study we employed one of the four standard PAI malingering indexes (the Negative Impression Management scale [NIM]) and two supplementary scores — the Malingering Index (MAL; Morey, 1996) and the Rogers Discriminant Function (RDF; Rogers et al., 1996). The NIM detects exaggerated unfavourable presentation based on bizarre and unlikely symptoms; it is derived from nine PAI items, with a score of ≥92*T* indicative of definite malingering (Morey, 1991). The MAL is designed to detect over- and under-endorsed items inconsistent with clinical populations; it is derived from eight configural features of various PAI scales with a score of ≥5 indicating likely malingering (Morey, 1996). The RDF is designed to detect response patterns inconsistent with clinical populations; it is derived from a combination of discriminant function weighted scores from various PAI scales.

The SCL-90-R is a 90-item self-report screening instrument used to assess current psychological pathology in psychiatric and medical patients (Derogatis, 1992). It is reported as widely used in the assessment and diagnosis of psychiatric conditions (Rohling et al., 2002). In addition to three global distress indexes, the SCL-90-R has the following nine scales: somatisation, obsessive–compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. Participants rate items on a 5-point Likert scale ranging from 1 *(not at all)* to 5 (*extremely*) with higher scores indicating greater psychopathology. One of the SCL-90-R global distress indexes, the Positive Symptom Total (PST), was used as an indicator of malingering. The PST provides an indication of a dramatising response style indicative of faking bad. Consistent with test manual recommendations, a PST score of >50 for males and >60 for females was used to assess malingering (Derogatis, 1992).

Table 1
Clinical indices of the PAI and SCL-R-90: means, standard deviations, and group differences.

Controls			Malingerers		
($n = 22$)			($n = 19$)		
Scale	*M*	S.D.	*M*	S.D.	*F* (1, 39)
PAI					
SOM	56.4	11.2	104.2	34.3	38.17*
ANX	51.1	9.6	81.8	17.67	50.08*
ARD	51.2	10.1	81.4	19.7	39.80*
DEP	50.2	10.1	91.7	23.5	56.75*
MAN	51.4	12.2	55.3	18.1	0.69
PAR	50.4	9.5	85.2	23.6	40.32*
SCZ	50.0	9.8	87.8	24.2	45.15*
BOR	50.4	8.2	70.4	16.7	24.79*
ANT	51.7	9.6	60.6	20.1	3.37
ALC	50.9	8.9	70.3	22.3	14.15*
DRG	53.7	10.6	90.3	31.3	28.12*
SCL-90-R					
SOM	60.3	19.6	91.2	30.3	14.85*
O–C	65.2	17.8	89.9	22.8	15.10*
IS	72.6	21.6	102.9	32.1	12.94*
DEP	66.0	20.2	96.1	28.5	15.48*
ANX	60.3	25.0	101.3	31.6	21.46*
HOS	64.0	19.8	86.7	31.8	7.73*
PHOB	57.0	27.8	104.8	46.2	16.60*
PAR	62.1	19.3	89.5	31.9	11.43*
PSY	72.7	37.5	124.0	51.1	13.69*

Notes. (i) PAI = Personality Assessment Inventory; SOM = Somatic Complaints; ANX = Anxiety; ARD = Anxiety Related Disorders; DEP = Depression; MAN = Mania; PAR = Paranoia; SCZ = Schizophrenia; BOR = Borderline Features; ANT = Antisocial Features; ALC = Alcohol Problems; DRG = Drug Problems. (ii) SCL-90-R = Symptom Checklist-90 Revised; SOM = Somatisation; O–C = Obsessive–Compulsive; I-S = Interpersonal Sensitivity; DEP = Depression; ANX = Anxiety; HOS = Hostility; PHOB = Phobic Anxiety; PAR = Paranoid Ideation; PSY = Psychoticism. Means shown as a *T*-scores; a *T*-Score ≥ 70 represents 2 S.D.s from the standardisation sample. For the SCL-90-R, the manual indicates that *T*-scores reach ceiling at 81*T*. For the purposes of assessing group differences whilst enabling comparisons on a standardised metric, ceilings were not applied in this study.
*$P < 0.05$.

2.3. Procedure

After providing informed consent and completing a demographic questionnaire, participants read an instructional-set specific to group membership (see Appendix). Malingerers were instructed to believably fake psychological impairment on the PAI and SCL-90-R for a chance to win one hundred dollars cash, and to facilitate believable simulations, they were given a list of psychological symptoms to study before testing (see Appendix). Controls received standard test instructions, with compliance affording them a chance to win the prize. Participants then completed the PAI and SCL-90-R, which were counterbalanced to mitigate order effects.

Following psychological testing, all participants completed a post-experimental questionnaire specific to group membership and received written and verbal debriefing. Consistent with recommendations regarding the conduct of simulated malingering studies (Nies and Sweet, 1994), post-experimental questionnaires were used to assess understanding and compliance with experimental instructions.

3. Results

3.1. Group comparisons: clinical indexes

Group differences between malingerers and controls on the 11 clinical scales of the PAI were examined using MANOVA.[1] Significant multivariate effects were found for these scales, Pillai's trace = 0.674, $F(11, 29) = 5.442$, $P < 0.001$. Table 1 displays the PAI clinical scale means, standard deviations, and results from univariate tests (with Bonferroni correction $P = 0.004$) for each individual clinical scale as a function of group. This table shows significant group differences on most clinical scales, with the exception of mania and antisocial features.

In terms of the magnitude of malingering on the PAI, and whether this was sufficient to warrant clinical diagnosis, group means were compared

[1] Note, group comparisons using non-parametric statistics were also undertaken. Since the choice of statistic type (parametric versus non-parametric) did not change the pattern of results, the results of one set of comparisons are shown. Following the precedent set by Bowen and Bryan (2006), parametric comparisons are shown.