# A Retrospective Analysis of Rates of Malingering in a Forensic Psychiatry Practice

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Malingering is defined as the intentional falsification or exaggeration of symptoms for secondary gain. The prevalence of malingering varies widely among different medicolegal contexts, emphasizing the need to identify additional predictive factors when considering the diagnosis. This study measured rates of malingering in a sample of 1,300 subjects from a forensic psychiatry practice located in Lexington, Kentucky. Among those who failed at least three symptom or performance validity scales, odds ratios for malingering were approximately twice as high in subjects with less than a college education (p = .011), those referred by the opposing counsel (p = .001), and those meeting criteria for a mental illness in three or more DSM-5 diagnostic categories (p = .015). Those evaluated for worker's compensation and head injury were more likely to malinger than other case types (p = .028). Men were found to malinger at a higher rate than women (p = .014), and no significant differences were observed based on race. These results indicate that education, gender, psychiatric history, case type, and referral type may be important factors to consider when assessing for malingering.

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**Key words:** malingering; performance validity test; symptom validity test; education; psychiatric diagnosis; gender

Forensic practitioners must take special care when assessing for falsification or exaggeration of symptoms. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) states that malingering should be considered if there is marked discrepancy between the individual's claimed symptoms and objective findings, if the individual has antisocial personality disorder or is uncooperative with the evaluation, or if the evaluation was performed in a medicolegal context.<sup>1</sup> Literature suggests that these indicators for malingering are largely not useful and introduce potential for confirmation bias.<sup>2</sup> For example, uncooperativeness is a poor prognosticator for malingering and is more closely associated with psychotic illness.<sup>3</sup> In addition, symptom discrepancy is a core feature of functional neurological disorder and somatic symptom disorder, conditions in which symptoms are not misrepresented.<sup>4</sup> False reporting can also be sequelae of "compensation neurosis," which is defined by the unconscious exaggeration of symptoms that occurs as a result of a unique stressor.<sup>5</sup> Compensation neurosis is associated with borderline, antisocial, narcissistic, and histrionic personality disorders.<sup>5</sup> All of these conditions can be difficult to differentiate from feigning, which refers to purposeful falsification of symptoms to deceive.<sup>6</sup>

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) includes two diagnoses that involve feigning: factitious disorder and

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malingering. Malingering refers to the misrepresentation of symptoms for an external incentive, whereas factitious disorder is characterized by feigning of symptoms for the psychological gain of playing the sick role.<sup>6,7</sup> Identifying malingering is especially challenging in cases where symptoms are not completely feigned. Resnick *et al.*<sup>8</sup> identified three types of malingering: pure malingering, which refers to complete fabrication of symptoms; partial malingering, defined as amplification of existing symptoms; and false imputation, which inappropriately assigns causal blame for genuine symptoms.<sup>6,8</sup> It is important to note that the presence of malingering does not exclude the possibility of true illness or impairment.

Malingering is not only challenging to identify, but assigning the diagnosis comes with significant risk to the evaluee and forensic practitioner. Misclassifying malingering leads to injustice for the evaluee, damaging the evaluee's credibility and potentially subjecting the evaluee to unjust consequences.<sup>9</sup> Because of the inherent difficulty in proving malingering and the potential risks for the evaluee, forensic practitioners are at high risk of liability for defamation and malpractice.<sup>10</sup> Because of the serious implications of malingering, Knoll and Resnick<sup>10</sup> suggested that the diagnosis should not be made unless there is a high degree of medical certainty.<sup>9,10</sup>

Conversely, failure to detect malingering can have serious consequences in many domains. In clinical settings, feigned symptoms can lead to iatrogenic harm.<sup>11</sup> Malingering can also lead to unnecessary insurance, legal, and medical costs. In 2011, the estimated social security costs of malingering for adult disability claimants was \$20.02 billion.<sup>12</sup> When considering malingered traumatic brain injury among U.S. veterans, disability costs were estimated to be \$146 to \$235 million per year.<sup>13</sup>

In a forensic psychiatric setting, neuropsychological assessments are one set of instruments that can be used to assist in the identification of malingering. These assessments include performance validity tests (PVTs), which assess for effort, with scores below chance representing the best determinant of malingereng.<sup>14</sup> To assess the validity of self-reported symptoms, symptom validity tests (SVTs) are utilized. SVT items can elicit rare, unlikely, or amplified symptoms of a particular diagnosis.<sup>6</sup> Although PVTs and SVTs are the most objective method to detect malingering, they have limited sensitivity and specificity.<sup>15</sup> Because of the risks of misidentifying malingering, research has aimed to keep falsepositive results to 10 percent or less. As a result, specificity is optimized at the expense of sensitivity.<sup>16–18</sup> Therefore, normal scores on validity measures do not exclude the possibility of feigning. These limitations lead to the importance of identifying additional factors when considering the condition.

The prevalence of malingering in various medicolegal contexts has been extensively studied. Literature suggests that rates of malingering vary significantly but tend to correlate with the potential for compensation and severity of criminal charges.<sup>6</sup> For clients asserting incompetence to stand trial or an insanity defense, rates of malingering range from eight to 21 percent.<sup>6</sup> For more severe charges involving murder and robbery, rates for malingering have been observed as high as 38 percent.<sup>19</sup> In civil proceedings, rates of malingering range from 20 to 50 percent for those seeking compensation for chronic pain or mild traumatic brain injury (TBI) and 30 percent for veterans seeking disability benefits for posttraumatic stress disorder (PTSD).<sup>20-22</sup> For students assessed for attention-deficit and hyperactivity disorder (ADHD) or a learning disability, rates of malingering have been estimated to range from 15 to 50 percent.<sup>23–25</sup>

Demographic factors associated with malingering have received less attention in the literature. Several studies have investigated demographic characteristics of malingering in clinical settings where the condition was assigned based on DSM-5 criteria.<sup>1,26,27</sup> A meta-analysis conducted by Udoetuk et al.<sup>27</sup> investigated racial and gender differences in malingering from nonpsychiatric hospitals and emergency departments. In the inpatient setting, men were more than twice as likely to meet criteria for malingering when compared with women. Adjusted odds ratios suggested no differences in rates of malingering between Blacks and Whites but appeared lowest among Hispanic men. In the emergency room setting, Whites were most likely to meet criteria for malingering, whereas there were no differences based on gender.<sup>27</sup> A case control study by Park et al.<sup>26</sup> assessed for demographic factors of malingering using a population of 57 patients in an emergency department setting. When compared with date-matched controls, patients who malingered were more likely to be Black, male, homeless, older than 45 years, and have additional psychiatric diagnoses, antisocial personality traits, substance use disorders, and frequent emergency department visits.<sup>26</sup> In these studies, methods for detecting malingering were not standardized with validity testing and evaluators were not blinded, suggesting potential for observer bias.

In the inpatient psychiatric setting, literature suggests that malingering is overrepresented in Black individuals and those of low socioeconomic status.<sup>28</sup> In addition, a study by Nesbit-Bartsch *et al.*<sup>29</sup> suggested that, in a clinical interview setting, evaluators were more likely to determine that men were malingering when compared with women. There were no differences, however, in validity measures based on gender.<sup>29</sup> These disparities raise concern for the role of implicit bias and prejudice in identifying the condition, highlighting the importance of objective validity assessments.

Several studies have assessed demographic factors associated with malingering via utilization of PVTs and SVTs. One study by Young et al.<sup>30</sup> assessed for an association between various personality traits and malingering. The study consisted of 63 subjects undergoing neuropsychologic evaluation for compensation after mild head injury. Malingering was assessed with the Test of Memory Malingering (TOMM)<sup>31</sup> and Raven's Standard Progressive Matrices (RSPM).<sup>32</sup> Based on score results, 23 of the 63 subjects met criteria for malingering. They were given the Eysenck Personality Questionnaire-Revised Short Scale (EPQ-RS)<sup>33</sup> to examine the psychoticism, neuroticism, extraversion, and lie scales. The results did not show any correlation between personality traits and malingering, suggesting that additional factors may be involved.<sup>30</sup> Braun et al.<sup>34</sup> evaluated demographic characteristics in a sample of 1,261 White and Black male veterans who were referred for outpatient neuropsychologic testing. Malingering was assessed using the TOMM31 and Medical Symptom Validity Test (MSVT).35 Results showed that rates of malingering were higher in patients who were younger in age, had less education, and had a service connection for disability.<sup>34</sup> Limitations to this study included generalizability and potential for false positives, given veterans were not informed whether the study would affect their disability benefits.

The study by Braun *et al.*<sup>34</sup> discovered racial differences between the TOMM and MSVT. In the absence of malingering, it is generally accepted that validity testing results do not vary based on demographic factors, namely age, race, and education.<sup>34,36</sup> There have been a few studies suggesting that older and less educated patients may be more likely to fall below the cutoff of the MSVT and TOMM.<sup>37–39</sup> One such study discovered differences in performance only for those who were functionally illiterate.<sup>39</sup> When utilizing multiple independent assessments to test for malingering, false-positive errors are minimized and the probability of detecting malingering is optimized.<sup>38</sup> It has been generally accepted that a threshold of failing at least two validity tests will minimize false-positive results.<sup>37</sup>

This study aimed to identify demographic and clinical factors associated with symptom falsification by utilizing multiple validity scales in a robust sample of 1,300 subjects. Given that all evaluations were conducted in a forensic context, where external incentives influence client behavior, secondary gain was implied for those who failed multiple validity scales. To maximize specificity, malingering was considered present for those who scored below the scale authors' cutoff for inadequate effort (PVT) or symptom magnification (SVT) on at least three validity scales. No explicit hypotheses were made because of the exploratory nature of this study.

# Methods

The sample included data from 1,300 subjects undergoing psychiatric evaluations at a forensic psychiatry practice in Lexington, Kentucky. Data were collected between January 1, 2014 and May 1, 2021. Demographic and clinical characteristics were extracted from the forensic reports, including age, race, sex, education, referral type, and case type. Case type was stratified into the following categories: criminal, disability, fitness for duty, head injury, personal injury, worker's compensation, and other. Head injury cases were excluded from other categories. Psychiatric diagnoses (subjects' lifetime history) were sorted by DSM-5 diagnostic category. The total number of categories in which each subject had at least one diagnosis was recorded as the number of DSM-5 diagnostic categories met.

For each subject, malingering was assessed with validity scales, including the Test of Memory Malingering, both Trial 2 and Retention trial (TOMM-T2 and TOMM-R)<sup>40</sup>; Letter Memory Test (LMT)<sup>41</sup>; Victoria Symptom Validity Test, including Easy, Difficult, and Total subscales (VSVT-EZ, VSVT-DIF, and VSVT-TOT)<sup>42</sup>; and MMPI 2-Restructured Form (MMPI-2-RF) scales, including Infrequent Responses (F-r), Infrequent

#### Svete, Tindell, McLouth, and Allen

Table 1	Univariate (Unadjusted)	Relationships between	Malingering and	Demographic and	d Clinical	Factors
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	Total Sample $n = 1,300$	No Malingering n = 983 (75.6%)	Malingering $n = 317 (24.4\%)$	Test Statistic	p-Value
Age, mean (SD) Sex, n (%)	45.7 (14.9)	45.7 (12.6)	45.1 (10.5)	0.73 6.05	0.467 0.014
Male Female	808 (62.2) 491 (37.8)	593 (73.4) 390 (79.4)	215 (26.6) 101 (20.6)		
Education, mean (SD)	12.8	12.8 (2.6)	12.2 (2.4)	3.93	<.001
Education, n (%) <12 years 12 years or GED Some college College graduate				18.46 	<.001 
Race, n (%) White Black Hispanic Other			 288 (24.3) 19 (26.8) 4 (18.2) 5 (26.3)	0.71	0.877 — — —
Case type, n (%) Criminal Disability Fitness for duty Head injury Personal injury Worker's compensation Other	16 (1.2) 19 (1.5) 33 (2.5) 527 (40.5) 126 (9.7) 573 (44.1) 5 (0.4)	12 (75.0) 16 (84.2) 32 (97.0) 382 (72.5) 109 (86.5) 427 (74.5) 4 (80.0)	4 (25.0) 3 (15.8) 1 (3.0) 145 (27.5) 17 (13.5) 146 (25.5) 1 (20.0)	20.25 — — — — — — — —	0.003 — — — — — — — —
Lifetime presence of mental illness, <i>n</i> (%) No Yes	94 (7.2) 1,206 (92.9)	79 (84.0) 904 (75.0)	15 (16.0) 302 (25.0)	3.9 	0.048
Number of DSM-5 diagnostic categories met, $n$ (%) 0 1 2 $\geq 3$	 498 (38.3) 454 (34.9) 254 (19.5)			11.47 — — —	0.009 

DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; GED = general equivalency diploma; SD = standard deviation. Not all comparisons utilize 1,300 observations, as some data were missing.

Psychopathology Responses (Fp-r), Infrequent Somatic Responses (Fs), Fake Bad Scale Responses (FBS-r), Response Bias Scale (RBS), and Underreporting Lie Responses (L-r).<sup>43,44</sup> In this study, malingering was considered present if the subject failed at least three validity scales, according to the scale author's guidelines.

Unadjusted analyses were used to identify the relationships between malingering and demographic and clinical factors using chi-square tests for categorical variables and t test for continuous variables. Multivariable logistic regression was used to predict the probability of malingering based on demographic and clinical characteristics. Fifty-four individuals were missing at least one demographic or clinical data point. These individuals were excluded from the multivariable logistic regression analysis but were otherwise included in unadjusted analyses.

Regression coefficients were exponentiated and presented as odds ratios and 95 percent confidence intervals. A p value <.05 was used for statistical significance. Data management and analysis were performed using SAS version 9.4.

## Results

## **Demographics**

Table 1 lists the demographic and clinical information of the 1,300 subjects who participated in the study. The average age for subjects was 45.7, with 62.2 percent being male. Regarding educational status, 14.0 percent had less than 12 years of education, 5.0 percent had a high school education or general equivalency diploma (GED), 19.6 percent had some college, and 16.6 percent were college graduates. The

#### Analysis of Malingering in Forensic Psychiatry Practice

	п	No Malingering $n = 983$	Malingering $n = 317$
Tests taken	1,300	9 (9–9)	11 (10–11)
TOMM-T2	1,245	50 (49–50)	40 (31–47)
TOMM-T2 $\leq$ 45		62 (6.7%)	225 (71.9%)
TOMM-R TOMM-R $\leq$ 45	281	46 (38–49) 30 (45.5%)	34 (29–40) 202 (94.0%)
VSVT-EZ	1,227	24 (24–24)	22 (20–24)
VSVT-EZ $\leq 7$		0 (0%)	5 (1.6%)
VSVT-DIF	1,227	22 (18–24)	10 (7–15)
VSVT-DIF $\leq 7$		12 (1.3%)	100 (32.1%)
$\begin{array}{l} LMT \\ LMT \leq 93\% \end{array}$	439	0.96 (0.84–1) 78 (42.6%)	0.73 (0.6–0.87) 228 (89.1%)
MMPI F-r	1,249	74 (61–92)	111 (92–120)
MMPI F-r $\geq 100$		129 (13.7%)	208 (67.1%)
MMPI Fp-r	1,249	51 (42–59)	68 (59–77)
MMPI Fp-r ≥ 100		6 (0.64%)	40 (12.9%)
MMPI Fs	1,249	66 (50–75)	91 (74–115)
MMPI Fs $\geq$ 100		28 (3.0%)	120 (38.7%)
MMPI FBS-r	1,249	77 (67–86)	90.5 (83–99)
MMPI FBS-r $\geq 100$		18 (1.9%)	73 (23.6%)
MMPI RBS	1,249	80 (67–88)	105 (92–114)
MMPI RBS $\geq 100$		94 (10.0%)	195 (62.9%)
MMPI L-r	1,249	57 (52–66)	62 (52–66)
MMPI L-r ≥ 100		0 (0%)	0 (0%)

#### Table 2 Comparison of Malingering Scales

LMT = Letter Memory Test; MMPI F-r = Minnesota Multiphasic Personality Inventory, Infrequent Responses; MMPI FBS-r = Minnesota Multiphasic Personality Inventory, Fake Bad Scale Responses; MMPI Fp-r = Minnesota Multiphasic Personality Inventory, Infrequent Psychopathology Responses; MMPI Fs = Minnesota Multiphasic Personality Inventory, Infrequent Somatic Responses; MMPI L-r = Minnesota Multiphasic Personality Inventory, Underreporting Lie Responses; MMPI RBS = Minnesota Multiphasic Personality Inventory, Response Bias Scale; TOMM-R = Test of Memory Malingering, Retention trial; TOMM-T2 = Test of Memory Malingering, Trial 2; VSVT-DIF = Victoria Symptom Validity Test, Difficult subscale; VSVT-EZ = Victoria Symptom Validity Test, Easy subscale.

majority of subjects were White (91.3%), whereas 5.4 percent were Black, 1.7 percent were Hispanic, and 1.5 percent belonged to other races. Most cases were for worker's compensation or head injury (44.1% and 40.5%); 9.7 percent of cases were a party to a personal injury lawsuit. Other cases included criminal evaluation (1.2%), Social Security Disability (1.5%), and fitness for duty (2.5%) for employers. Approximately 92.9 percent of patients had a lifetime history of mental illness, with 19.5 percent meeting criteria for a psychiatric diagnosis in at least three DSM-5 diagnostic categories.

## **Univariate Analysis**

Table 1 also presents the univariate, or unadjusted, relationships between an assessment of malingering and demographic and clinical factors. Of the 1,300 individuals in the study, 317 (24.4%) met criteria for malingering. A significantly higher proportion of men met criteria for the condition compared with women (26.6% versus 20.6%; p = .014). Those

with less than 12 years of education malingered at twice the rate of college graduates (p < .001). There was no statistical difference among race (p = .877). Those with a history of mental illness met the criteria for malingering at a higher rate when compared with those without (25.0% versus 16.0%, p = .048). Malingering determination was positively correlated with number of psychiatric diagnosis categories, with 21.1 percent meeting criteria for a diagnosis in one DSM-5 category, 27.1 percent in two DSM-5 categories, and 29.1 percent in three or more DSM-5 categories (p = .009).

## **Comparison of Malingering Scales**

Table 2 includes data for each validity assessment based on determination of malingering. For each scale, the mean score and score range are presented, followed by the number and percentage of individuals who scored below the cutoff. Because the groups were defined in part by their scores on these scales,

Table 3	Association	Between	Demographic	and C	linical F	actors
and Malin	gering					

	Odds Ratio		
	(95% CI)	Statistic	<i>p</i> -Value
Age	1 (0.99–1.01)	1.54	0.214
Sex	_	2.4	0.121
Female	0.8 (0.6–1.06)		_
Male	Ref		
Education	_	11.05	0.0009
Less than college	2.16 (1.37-3.39)		_
College graduate	Ref		
Race		1.27	0.737
Black	1.16 (0.66–2.04)		_
Hispanic	0.58 (0.19–1.76)	_	_
Other	1.11 (0.38–3.19)		_
White	Ref		—
Referral type	_	13.16	0.001
Personal attorney	0.48 (0.32-0.72)	_	_
None	0.47 (0.13–1.79)	_	_
Opposing attorney	Ref		—
Case type	_	7.14	0.028
Worker's compensation	1.47 (0.88–2.48)		_
Head injury	1.90 (1.13–3.19)		_
Other	Ref		—
Number of DSM-5	_	10.44	0.015
diagnostic categories met			
0	0.47 (0.25-0.89)	_	_
1	0.68 (0.47–0.98)		—
2	0.96 (0.67–1.38)		—
$\geq 3$	Ref	—	—

CI = confidence interval; DSM-5 = Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; GED = general equivalency diploma.

*p* values were not included. Of those in the malingering group, the TOMM-T2, TOMM-R, LMT, MMPI F-r, and MMPI RBS had the highest percentage of failures. Only five individuals scored below the cutoff on the VSVT-EZ (all fell in the malingering group), and no individuals failed the MMPI L-r.

## Multiple Logistic Regression Analysis

Table 3 depicts the results of a multiple logistic regression analysis that was used to determine the odds of malingering determination based on demographic characteristics. Still, no significant differences were observed when considering race. Although there was a higher prevalence of males in the malingering group when compared with females, there was no longer a statistically significant difference in odds of malingering determination based on sex (p = .121). When considering education, those with less than a college education were more than twice as likely to meet the malingering criteria when compared with those who were college graduates (odds ratio (OR) = 2.16, 85% confidence interval (CI) 1.37-3.39; p = .0009). Those who were referred by their attorney were half as likely to fall in the malingering group (OR = .48, 95% CI, .32-.72; p = .001) compared with those referred by the opposite side. Clients who were evaluated for worker's compensation and head injury were almost twice as likely to be assigned as malingering in comparison to other case types (p = .028). Individuals meeting criteria for mental illness in fewer than three DSM-5 categories were less likely to fall in the malingering group (zero DSM-5 categories: OR = .47, 95% CI, .25-.89; one DSM-5 category: OR = .68, 95% CI, .47-.98; two DSM-5 categories: OR = .96, 95% CI, .67-1.39; p = .015).

## Discussion

Detecting malingering is a complicated process because of challenges in identifying incentive, distinguishing the condition from personality and somatization disorders, deciphering partial malingering, and minimizing risk to the evaluee and the forensic practitioner in the case of misassigning the condition. Accurately identifying malingering is imperative to promoting appropriate allocation of medicolegal resources and preventing iatrogenic harm. Given that the prevalence of malingering varies significantly among clinical populations, this study aimed to identify additional factors that may be associated with the condition.

Results from this study revealed that assignment of malingering was more than twice as likely for those meeting criteria for a mental illness in three or more DSM-5 categories. Assignment of malingering was also more likely in individuals referred by the opposing side when compared with those referred by their own attorney. Such demographic and clinical factors have not been previously identified to be associated with malingering. Additional studies are warranted to delineate the relationship between these factors and malingering presentations.

Those who were evaluated for worker's compensation and head injury more often met malingering criteria than other case types. This result is consistent with previous studies, which suggest that rates of malingering are higher in such cases related to potential for compensation.<sup>20–22</sup>

Similar to Braun *et al.*,<sup>34</sup> results from this study found that malingering determination was more likely for those who were less educated. These results are not likely confounded by the design of

the performance validity assessments, given these scales are considered valid for those who are literate.<sup>36,39</sup> Future studies are warranted to investigate potential psychosocial factors associated with less education and the propensity to feign symptoms.

Unadjusted analyses found that the rate of malingering assessment was higher in males than in females. After adjusting for competing factors, however, there were no differences based on gender. In addition, there were no racial differences among profiles that were suggestive of malingering. Previous research indicates that, when the condition is assigned based exclusively on clinical evaluation, rates of malingering are higher among those who are male or Black.<sup>26,27,29</sup> Such differences have been less commonly observed when malingering was determined based on validity measures. One exception is Braun and colleagues,<sup>34</sup> who found that Black evaluees were more likely to fail the TOMM than Whites.<sup>29,34</sup> Overall, the current study underscores the importance of utilizing an objective approach with validity assessments to prevent implicit bias. Our findings also highlight the benefit of administering multiple validity measures to promote accuracy.

Literature suggests that consistent results among various validity tests (including both SVTs and PVTs) are more likely to accurately determine malingering while minimizing false-positive results.<sup>37,38</sup> This study aimed to emulate this concept by utilizing multiple symptom and performance validity assessments to objectively identify feigning. Although the variety of validity assessments is a strength of this study, it is important to note that symptom validity measures, including the F-r, F-s, and L-r scales of the MMPI, assess other threats to validity, not just symptom enhancement.<sup>43</sup> This may limit the accuracy of the results.

Because of the challenges in identifying secondary gain, research involving these validity assessments has not been studied in true malingerers but rather participants who simulated malingering.<sup>45–47</sup> This further substantiates the limitations and risks of assigning malingering. Although symptom exaggeration and inconsistent reporting have been observed in diagnoses including somatic symptom disorder, functional neurological disorder, and personality disorders, this study did not decipher these conditions when assessing for malingering. Future investigation of these data should address the relationship between these disorders and failure of validity assessments.

Although this study utilized multiple validity measures to assess feigning, simulated adjustment was minimally considered in the malingering criteria. Although feigning refers to overstated pathology, simulated adjustment occurs when the subject attempts to create a false positive impression.<sup>48</sup> Such behavior can be observed in fitness for duty cases, in which the individual may want to return to work, maintain a driver's license, or carry a firearm. Although the study included the FBS and L-r, the remaining validity measures did not assess for simulated adjustment. Furthermore, there were no patients in the study who scored above the cutoff on the L-r, highlighting a need to identify more sensitive measures for simulated adjustment.

Most cases in this study involved worker's compensation, head injury, and personal injury civil litigation. Therefore, the results may have limited application to cases involving disability claims and criminal proceedings. Although there were no differences in malingering based on race, the majority of subjects were White, suggesting the results may not accurately represent demographic factors for malingering among racial minorities.

This study encompasses a robust assessment of risk factors associated with malingering. First, this is the largest known study to assess clinical and demographic characteristics associated with symptom falsification. In addition, when compared with similar studies, this study utilized the most rigorous criteria for malingering to maximize specificity. Results suggested that lower education level, history of psychiatric illness, case type, and retaining legal party may be important factors involved in the propensity to malinger. Future studies are necessary to delineate the psychodynamic relationship between these factors and malingering presentations.

In certain cases, the results of this study can help evaluators develop an increased index of suspicion for malingering. It is also important to consider that awareness of such factors can invoke bias. Evaluators should attempt to remain neutral during evaluations to ensure that a complete history can be obtained. Furthermore, test data should be interpreted blindly and should be carefully integrated with information gathered from the clinical interview and medical records. Additional ethical practices should include providing informed consent to evaluees regarding the consideration of symptom falsification during their assessment. Terms such as "over- or under-reporting" and "symptom exaggeration" should be considered in place of "malingering" to acknowledge the limitations of assigning malingering, minimize risk of litigation for the evaluator, and avoid subjecting the evaluee to unjust consequences.

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### References

- American Psychiatric Association. Additional conditions or problems that may be a focus of clinical attention. In Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision. Washington, DC: American Psychiatric Association, 2022. p. 835
- Rogers R. Professional pitfalls in malingering determinations. J Am Acad Psychiatry Law. 2021 Sep; 49(3):296–9
- Rogers R. Development of a new classificatory model of malingering. Bull Am Acad Psychiatry Law. 1990; 18(3):323–33
- American Psychiatric Association. Somatic symptom and related disorders. In Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision. Washington, DC: American Psychiatric Association; 2022. p. 349–51
- Hall RCW, Hall RCW. Compensation neurosis: A too quickly forgotten concept? J Am Acad Psychiatry Law. 2012 Sep; 40 (3):390–8
- McDermott BE. Evaluation of Malingering. In Gold LH, Freirson RL, editors. The American Psychiatric Association Publishing Textbook of Forensic Psychiatry, Third Edition. Washington, DC: American Psychiatric Association; 2018. p. 75–92
- American Psychiatric Association. Factitious disorder. In Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision. Washington, DC: American Psychiatric Association; 2022. p. 369
- Resnick PJ. Malingered psychosis. In Rogers R, editor. Clinical Assessment of Malingering and Deception, Second Edition. New York, NY: The Guilford Press; 1997. p. 47–67
- Weiss KJ, Van Dell L. Liability for diagnosing malingering. J Am Acad Psychiatry Law. 2017 Sep; 45(3):339–47
- Knoll JL, Resnick PJ. U.S. v. Greer: Longer sentences for malingerers. J Am Acad Psychiatry Law. 1999 Dec; 27(4):621–5
- van der Heide D, Boskovic I, van Harten P, Merckelbach H. Overlooking feigning behavior may result in potential harmful treatment interventions: Two case reports of undetected malingering. J Forensic Sci. 2020 Jul; 65(4):1371–5
- Chafetz M, Underhill J. Estimated costs of malingered disability. Arch Clin Neuropsychol. 2013; 28(7):633–9
- Denning JH, Shura RD. Cost of malingering mild traumatic brain injury-related cognitive deficits during compensation and pension evaluations in the veterans benefits administration. Appl Neuropsychol Adult. 2019; 26(1):1–16
- Committee on Psychological Testing Including Validity Testing, for Social Security Administration Disability Determinations, Board on the Health of Select Populations, Institute of Medicine.

Psychological Testing in the Service of Disability Determination. Washington, DC: National Academies Press; 2015

- DeRight J. Sensitivity and specificity of common PVTs and SVTs. In DeRight J, editor. Essential Neuropsychology: A Concise Handbook for Adult Practitioners. Cham, Switzerland: Springer International Publishing; 2021. p. 5–9
- Larrabee GJ. Minimizing false positive error with multiple performance validity tests: Response to Bilder, Sugar, and Hellemann (2014 this issue). Clin Neuropsychol. 2014 Nov; 28(8):1230–42
- Larrabee GJ. Aggregation across multiple indicators improves the detection of malingering: Relationship to likelihood ratios. Clin Neuropsychol. 2008 Jul; 22(4):666–79
- Boone KB. Assessment of Feigned Cognitive Impairment. A Neuropsychological Perspective. New York, NY: The Guilford Press; 2007
- McDermott BE, Dualan IV, Scott CL. Malingering in the correctional system: Does incentive affect prevalence? Int'l J L & Psychiatry. 2013 May-Aug; 36(3-4):287–92
- Larrabee GJ. Detection of malingering using atypical performance patterns on standard neuropsychological tests. Clin Neuropsychol. 2003 Aug; 17(3):410–25
- Greve KW, Ord JS, Bianchini KJ, Curtis KL. Prevalence of malingering in patients with chronic pain referred for psychologic evaluation in a medico-legal context. Arch Phys Med Rehabil. 2009 Jul; 90(7):1117–26
- Frueh BC, Hamner MB, Cahill SP, et al. Apparent symptom overreporting in combat veterans evaluated for PTSD. Clin Psychol Rev. 2000 Oct; 20(7):853–85
- Wierzbicki MT, Tyson CM. A summary of evaluations for learning and attention problems at a university training clinic. Journal of Postsecondary Education and Disability. 2007; 20(1):16–27
- Sullivan BK, May K, Galbally L. Symptom exaggeration by college adults in attention-deficit hyperactivity disorder and learning disorder assessments. Appl Neuropsychol. 2007 Aug; 14 (3):189–207
- Harrison AG, Edwards MJ. Symptom exaggeration in postsecondary students: Preliminary base rates in a Canadian sample. Appl Neuropsychol. 2010 Apr; 17(2):135–43
- Park L, Costello S, Li J, *et al.* Race, health, and socioeconomic disparities associated with malingering in psychiatric patients at an urban emergency department. Gen Hosp Psychiatry. 2021 July-Aug; 71:121–7
- Udoetuk S, Dongarwar D, Salihu HM. Racial and gender disparities in diagnosis of malingering in clinical settings. J Racial Ethn Health Disparities. 2020 Dec; 7(6):1117–23
- Punko D, Luccarelli J, Bains A, *et al.* The diagnosis of malingering in general hospitals in the United States: A retrospective analysis of the national inpatient sample. Gen Hosp Psychiatry. 2023 Nov-Dec; 85:133–8
- Nesbit-Bartsch AE, McDermott BE, Warburton KD. Gender and malingering in defendants deemed incompetent to stand trial. J Am Acad of Psychiatry Law. 2021 Jun; 49(2):211–8
- 30. Young S, Jacobson R, Einzig S, *et al.* Can we recognise malingerers? The association between malingering, personality traits and clinical impression among complainants in civil compensation cases. Pers Individ Dif. 2016; 98:235–8
- Tombaugh TN. Test of Memory Malingering. North Tonawanda, NY: Multi-Health Systems; 1996
- Raven J, Raven JC, Court JH. Manual for Raven's Progressive Matrices and Vocabulary Scales. Oxford, UK: Oxford Psychologist Press/San Antonio, TX: The Psychological Corporation; 1998
- Eysenck HJ, Eysenck SBG. Manual of the Eysenck Personality Scales (EPS Adult), Comprising the EPQ-Revised (EPQ-R) (including Addiction and Criminality Scales), EPQ-R Short Scale, Impulsiveness

(IVE) Questionnaire (Impulsiveness/Venturesomeness/Empathy). London, UK: Hodder & Stoughton; 1991

- Braun SE, Fountain-Zaragoza S, Halliday CA, Horner MD. Demographic difference in performance validity test failure. Appl Neuropsychol Adult. 2023; 30(5):483–91
- Green P. Medical Symptom Validity Test (MSVT) for Microsoft Windows: User's Manual. Edmonton, Canada: Green's Publications; 2004
- Tart-Zelvin A, Navis BA, Lamping EM, et al. Low rate of performance validity failures among individuals with bipolar disorder. J Int Neuropsychol Soc. 2023; 29(3):298–305
- Larrabee GJ. False-positive rates associated with the use of multiple performance and symptom validity tests. Arch Clin Neuropsychol. 2014; 29(4):364–73
- Larrabee GJ. Performance validity and symptom validity in neuropsychological assessment. J Int Neuropsychol Soc. 2012; 18 (4):625–30
- Nijdam-Jones A, Rivera D, Rosenfeld B, Arango-Lasprilla JC. The effect of literacy and culture on cognitive effort test performance: An examination of the Test of Memory Malingering in Colombia. J Clin Exp Neuropsychol. 2019; 41(10):1015–23
- Rees LM, Tombaugh TN, Gansler DA, Moczynski NP. Five validation experiments of the Test of Memory Malingering (TOMM). Psychol Assess. 1998; 10(1):10–20
- 41. Inman TH, Vickery CD, Berry DTR, et al. Development and initial validation of a new procedure for evaluating adequacy of

effort given during neuropsychological testing: The letter memory test. Psychol Assess. 1998; 10(2):128–39

- 42. Slick DJ, Hopp G, Strauss E, Spellacy FJ. Victoria Symptom Validity Test: Efficiency for detecting feigned memory impairment and relationship to neuropsychological tests and MMPI-2 validity scales. J Clin Exp Neuropsychol. 1996 Dec; 18(6):911–22
- Ben-Porath YS. MMPI-2-RF Interpretive Manual. Minneapolis, MN: University of Minnesota Press; 2011
- 44. Tellegen A, Waller NG. Exploring personality through test construction: Development of the multidimensional personality questionnaire. In Boyle GJ, Matthews G, Sakofske DH, editors. The SAGE Handbook of Personality Theory and Assessment, Vol. 2. Personality Measurement and Testing. London, UK: SAGE Publications Ltd.; 2008. p. 261–92
- Powell MR, Gfeller JD, Hendricks BL, Sharland M. Detecting symptom- and test-coached simulators with the test of memory malingering. Arch Clin Neuropsychol. 2004 Aug; 19(5):693–702
- Resch ZJ, Webber TA, Bernstein MT, *et al.* Victoria Symptom Validity Test: A systematic review and cross-validation study. Neuropsychol Rev. 2021 Jun; 31(2):331–48
- Wygant DB, Ben-Porath YS, Arbisi PA, et al. Examination of the MMPI-2 restructured form (MMPI-2-RF) validity scales in civil forensic settings: Findings from simulation and known group samples. Arch Clin Neuropsychol. 2009 Nov; 24(7):671–80
- Rogers R, Bender SD, Hartigan SE. An overview of malingering and deception in neuropsychiatric cases. Behav Sci & L. 2024 Jan-Feb; 42(1):28–38