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Malingering and Executive Dysfunction in Trauma Patients: Diagnostic Challenges with the M-FAST

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ABSTRACT

Introduction: Many people who have been exposed to trauma apply to psychiatry and forensic medicine outpatient clinics for treatment and forensic reports. These people may exaggerate their psychiatric symptoms consciously or unconsciously for various reasons. It is imperative for clinicians to comprehend this condition in the context of treatment regulation and forensic processes. This study aimed to evaluate the relationship between the Miller Forensic Assessment of Symptoms Test (M-FAST) score and clinical, sociodemographic variables and Stroop test and Block Design Test (BDT).

Methods: The present study was conducted on a sample of patients over the age of 18 who had applied to the forensic medicine and psychiatry outpatient clinics for trauma-related reasons and had accepted to participate in the study. The patients were asked to complete Symptom Checklist-90 (SCL-90). M-FAST, The Stroop Test, and BDT were administered. The Stroop test and BDT were administered to assess the correlation between cognitive abilities and the M-FAST score. Those with an M-FAST score of seven or higher were considered possible malingerers. Clinician who examined the patient decided whether they were a malingerer, without knowing their M-FAST score.

Results: All clinical and sociodemographic variables were divided into two groups (present or absent) and compared according to M-FAST scores. Prevalence of possible malingerer was determined to be 33%. Possible malingerer were more likely to be male, have psychiatric comorbidities, and show poorer executive and visuospatial functioning. M-FAST scores positively correlated with psychopathology and Stroop interference, and negatively with BDT performance. Regression and ROC analyses supported the M-FAST's fair diagnostic accuracy (AUC=0.79).

Conclusion: Unlike prior studies, our research emphasizes how cognitive functioning impacts malingering assessment in trauma-affected, treatment-seeking. To the best of our knowledge, this is the first study to utilize M-FAST in patients seeking treatment for reasons other than forensic reasons.

Keywords: Cube Design Test, Malingering, M-FAST, Stroop Test, traumatic experiences

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INTRODUCTION

Malingering is described as the intentional production of false or exaggerated symptoms for external incentives (e.g., avoiding work, legal consequences, or obtaining financial compensation) but not being a recognized psychiatric condition in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) (1). Although it is not defined as a psychiatric disorder in diagnostic classification systems, psychiatrists encounter malingering daily and are required to assess it in detail.

Malingering is classified into three subtypes: pure malingering, which involves fabricating non-existent symptoms; partial malingering, which involves exaggerating real symptoms; and false imputation, which refers to misattributing actual symptoms to a compensable event. Among these, symptom exaggeration is considered more common than complete fabrication (2,3).

Highlights

- **M-FAST had fair to good discriminative ability to detect malingering.**
- **Possible malingerers had worse executive function.**
- **Malingering were evaluated as a continuum rather than dichotomic.**

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Psychiatric disorders, especially trauma-related disorders, are one of the most commonly malingered disorders as several compensation programs are available for people with a confirmed trauma-related disorder (4). Detection of malingering in trauma-related disorders mainly relies on clinical evaluation. Even though clinicans' experience is very important in the recognition of malingering, it is not enough as clinicians face certain difficulties (5,6). Clinicians generally need extra information obtained using self-report questionnaires, neurocognitive tests and psychometric tests such as Minnesonta Multiphasic Personality Inventory. Self-report assessments provide the advantage of elucidating the complexities of psychological functioning while exhibiting convergence and predictive validity. However, they are limited in assessing unconscious factors, lack of temporal accuracy, and are susceptible to reaction biases and memory inaccuracies. (7–9). Underpinning the ubiquity of dissimulation of trauma-related disorders, many symptom and performance validity tests are used to detect malingering. Cognition has been evaluated in people by malingering as a diagnostic tool as neurocognitive impairment has been commonly malingered. However, aim of evaluating cognition in malingering was to detect the profile of cognitive malingering (10) rather than effect of the cognitive functions malingering tests.

In the current study, we aimed to evaluate sociodemographic, trauma-related, cognitive and psychological determinants of the M-FAST. The primary rationale for the exclusive utilization of the Stroop test within the present study is the extant literature that substantiates its efficacy in detecting malingering, complemented by its operational simplicity. Despite the absence of direct supporting evidence in the extant literature regarding the block design test our decision to employ it was informed by clinical observations that suggest an association between malingering and impaired cognitive function. Also, we evaluated the diagnostic performance of the M-FAST when compared to clinicians' judgements who were blind to the M-FAST scores.

METHODS

Participants

Patients aged 18 to 65 who presented to the outpatient clinics of the Department of Psychiatry and the Department of Forensic Medicine at the İstanbul Faculty of Medicine with traumatic experiences were invited to participate in the study. Oral and written informed consents were obtained. Traumatic experiences were defined according to Criterion A of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5-TR), for posttraumatic stress disorder. Individuals with mental retardation or dementia, which could hinder compliance with the interview process, were excluded. Individuals who had previously been diagnosed with intellectual disability or dementia were not included in the study at all, and for those interviewed for the study, the presence or absence of intellectual disability or dementia was based on clinical observation. In total 90 participants, comprising 61 women and 29 men, were included. Of the ninety participants, twenty-five applied for a report and sixty-five applied for treatment. Of the twenty-five requests for reports, eleven were referred by the court and fourteen were individual applications.

Ethical approval for the study was obtained from the İstanbul Faculty of Medicine Ethical Committee (2021/2153-14/01/2022), and the study was conducted in accordance with the principles of the Declaration of Helsinki.

Procedure

All patients presenting to the psychiatry and forensic medicine outpatient clinics for trauma-related reasons were offered the opportunity to participate in the study. All patients who accepted were included in the study. The study was conducted between 1 February 2022 and 1 August 2022. No individuals diagnosed with intellectual disability or dementia were needed to be excluded. Three participants who were invited to participate in the study declined to do so and were therefore not included. The subjects were evaluated by a psychiatrist (M. K.) and a forensic physician (C. C.) who participated in the study. The assessment entailed the collection of sociodemographic and clinical data, the administration of neuropsychological tests, the administration of the M-FAST, and the completion of the SCL-90 by participants. The total duration of the assessment was approximately 45 minutes. All assessments conducted as part of the scientific research were performed by the same psychiatrist and forensic physician. The psychiatrists who conducted the participants' routine psychiatric assessments outside the scope of the scientific research were also asked whether they suspected malingering. The participants were grouped according to their opinion on this matter. Sociodemographic data included age, gender, educational attainment, marital status, income, and employment status. Clinical data encompassed diagnosis, prior psychiatric diagnoses and treatments, type of trauma, age at the time of trauma, duration since the trauma, frequency of trauma, and the presence of irreversible impairments resulting from trauma.

The Miller Forensic Assessment of Symptoms Test (M-FAST) is a brief, structured interview designed to screen for feigned psychiatric symptoms. It has demonstrated validity across various clinical and forensic populations. However, its reliability in patients with trauma related disorders has been questioned as it might be affected by cognitive functions, comorbid traits such as alexithymia, and optimal cut-off scores for detecting malingering vary widely (11,12). These findings suggest that the evaluation of malingering in trauma-exposed people should not rely solely on the M-FAST.

The degree of malingering was assessed using the Miller Forensic Assessment of Symptoms Test (M-FAST), developed by Miller et al. in 2001 (13). The scale comprises 25 items and these items are categorized into seven subscales: 'Reported vs Observed' (RO) with 3 items, 'Extreme Symptomatology' (ES) with 7 items, 'Rare Combinations' (RC) with 7 items, 'Unusual Hallucinations' (UH) with 5 items, 'Unusual Symptom Course' (USC) with 1 item, 'Negative Image' (NI) with 1 item, and 'Suggestibility' (S) with 1 item. Each item uses a true-false or yes-no response format. In the original study by Miller et al., a cut-off score of six was established, with a sensitivity of 0.93 and a specificity of 0.83 for detecting malingering (13,14). The Turkish validity and reliability study of the scale, conducted by Keyvan et al. in 2015, established a cut-off score of seven. With this threshold, the sensitivity and specificity for detecting malingering were 0.97 and 0.86, respectively (15). Individuals who scored 7 or above on the M-FAST test were considered to be in the group with possible malingerers in our study.

The Symptom Checklist-90 (SCL-90) is a self-administered tool that is used to evaluate general psychopathology. It comprises 90 items divided into 10 subsections: 12-item somatization, 10-item obsessive-compulsive disorder, 9-item interpersonal sensitivity, 13-item depression, 10-item anxiety, 6-item anger and hostility, 7-item phobic anxiety, 6-item paranoid ideation, 10-item psychoticism, and a 7-item "others" subsection. Participants were instructed to rate each item based on its frequency of occurrence over the past three months, using a scale ranging from 0 ("not present") to 4 ("almost constant") (16).

We assessed information processing, response inhibition, selective attention, and cognitive flexibility with the Stroop Test evaluates. MacLeod (1991) described Stroop interference as competition

between two responses: the color of the ink and the semantic content of the word, with interference causing a delay in response time (17). The version used in our study was adapted at the Istanbul Medical Faculty (Capa Version) (18). Participants first named the colors of rectangles, then read color names printed in matching ink, and finally identified the ink color of incongruent color names. Each stage included 60 items. The analysis interference time, errors, spontaneous corrections.

Overall cognitive performance was evaluated with the Wechsler Adult Intelligence Scale Block Design Test (19). In this test, participants arrange red-and-white blocks to match a target pattern, with performance scored based on accuracy and completion time. Tasks range from simple patterns using four blocks to more complex designs requiring nine blocks. The test is terminated after three consecutive failures, with the total score calculated by summing the scores from each stage. While primarily assessing visuospatial skills (20), the test also evaluates perceptual coherence, motor behavior, and spatial orientation, making it a performance task that demands analytical problem-solving strategies (21).

Statistical Analysis

IBM Statistical Package for Social Sciences (SPSS) program version 28 was used for statistical calculations. A value of $p<0.05$ was considered significant for all analyses. Participants were divided into two or more groups according to the clinical variables examined. For normally distributed variables, independent samples t-test or one-way analysis of variance (ANOVA) was used to evaluate continuous variables between groups. If the continuous variables were not normally distributed, Mann-Whitney U or Kruskal-Wallis tests were applied. The Pearson Correlation Test was performed to compare continuous variables such as the M-FAST score, age, years of education, and neuropsychological tests. Finally, the variables that had a statistically significant relationship with M-FAST scores were included in the linear regression analysis in which the dependent variable was the M-FAST score. The enter method was used in the analysis. The regression analysis, in which the M-FAST score was designated as the dependent variable, initially incorporated Stroop interference time, block design test, and SCL-90 score. Subsequently, the analysis was repeated by including sociodemographic and clinical variables, respectively. In addition, to assess the success of the M-FAST scale in assessing malingering, Receiver operating characteristic (ROC) analysis was applied and the area under the curve was calculated, taking clinicians' suspicion of malingering as the gold standard.

RESULTS

Participants were divided into two groups using the validated cut-off score of seven of the M-FAST. Prevalence of possible malingering according to this cut-off was 33.3% (n=30) in our clinical sample with a trauma history. Possible malingerer group had more males, current comorbid psychiatric disorders, history of psychiatry visits and history of psychiatric treatment when compared to non-malingerers and differences were statistically significant. Trauma-related disorders including Post-traumatic Stress Disorder (PTSD) and Acute Stress Disorder (ASD) were the most common psychiatric diagnoses in both groups. Physical trauma and witnessing traumatic events were more common in possible malingerers whereas sexual trauma was the most frequent type of trauma in non-malingerers. There were no statistically significant differences in terms of mean age, level of education, marital status, working status, status of court-ordered application, time since traumatic event, presence of psychiatric diagnosis, suicide and self-mutilation history (Table 1).

Group comparisons of the M-FAST score and its subscores, SCL-90 total score and its subscores, Stroop Test summary scores, BDT score scores in Table 2. The mean M-FAST score was 5±4.1 in the whole group. The M-FAST total and subscores, SCL-90 total and subscores, Stroop Test Interference Time were higher in the possible malingerer group when compared to non-malingerers whereas BDT score was lower. All differences were statistically significant. There were no significant differences between groups in terms of Stroop Test error count and spontaneous correction.

When evaluating all participants, a negative correlation was found between M-FAST score and years of education and this relationship was statistically significant (r: -0.246, $p<0.05$). There was no statistically significant relationship between the age of the patients and M-FAST scores ($p>0.05$). No statistically significant relationship was found between other sociodemographic data and M-FAST scores. There was a positive correlation between the M-FAST total score, M-FAST rare combinations score and Stroop Test time difference ($p<0.05$). Negative correlations were detected between the M-FAST total score, M-FAST reported versus observed, M-FAST extreme symptomatology score, M-FAST rare combinations score and BDT score ($p<0.05$). There was a positive correlation between total and all subscale M-FAST scores and SCL-90 total score ($p<0.05$). There were negative correlations between M-FAST total score, M-FAST extreme symptomatology score, M-FAST rare combinations score and number of psychiatric diagnoses ($p<0.05$). Correlations were presented in the Fig. 1 and all correlation coefficients were given in the Supplementary Table 1.

Thirty (33.3%) participants scored 7 or above, which is the accepted cutoff for M-FAST (15). Of these participants, 21(23.3%) weren't suspected of malingering by clinicians, while the remaining 9 (10%) participants were suspected of malingering by clinicians. Of the 60 people with an M-FAST score below 7, only 3 (3.3%) were thought to be malingering by the clinicians. Clinicians were reported that 12 participants (13.3%) were malingerer in the overall group. Mean M-FAST total score in this group was 9.5±5.6 and 4.3±3.3 in the non-malingerer group ($t(88)=-4.6$, $p<0.001$). A ROC curve analysis was conducted to assess the diagnostic accuracy of the M-FAST test in comparison to clinician judgment. The ROC curve is presented in Fig. 2. The area under the curve (AUC) was 0.79 (95% CI: 0.65–0.94), indicating fair to good discrimination. This suggests that the M-FAST test correctly differentiates between individuals identified as positive or negative by the clinician 79% of the time. In the ROC analysis that was part of our study, we figured out that the cut-off value for detecting possible malingering was 7 and above. When the cut-off value was 7, the sensitivity was 0.75 and the specificity was 0.721.

To evaluate associations between Stroop interference effect and the BDT with the M-FAST total score, we performed a series of linear regression analyses. In unadjusted model, Scl-90, Stroop interference effect and BDT scores were related with the M-FAST total score. In fully adjusted model in which analyses were adjusted for age, gender, years of education, number of psychiatric diagnoses, presence of psychiatric history and self-mutilation history, only the BDT and Scl-90 scores were related with the M-FAST score. In the regression analyses, education level and the number of diagnoses were included as covariates in Model 3 to control for their potential confounding effects rather than as independent predictors of M-FAST scores. While both variables exhibited significant bivariate correlations with the M-FAST total score, their associations did not remain significant after adjustment for the other predictors in the regression model. Results of the regression analyses were given in Table 3.

Table 1. Group comparisons in terms of sociodemographic data and neuropsychological tests

	Overall (N=90)	Possible malingerers (n=30)	Non-malingerers (n=60)	t (df)/χ^2(df)	ϕ/d	p
Age, years, mean ± SD	35.2±11.2	35.7±11.9	35±11	-0.3 (88)	0.07	0.38
Male, n (%)	29 (32.2)	16 (53.3)	13 (21.7)	9.2 (1)	0.32	0.002
Education, years, mean ± SD	11.2±4.5	10.2±4.6	11.7±4.4	1.5 (88)	-0.32	0.08
Marital status, married, n (%)	35 (38.9)	13 (43.3)	22 (36.7)	0.4 (1)	0.06	0.54
Working status, working, n (%)	29 (32.2)	12 (40)	17 (28.3)	1.3 (1)	0.11	0.26
Court-ordered application, yes, n (%)	11 (12.2)	2 (6.7)	9 (15)	1.3 (1)	-0.12	0.26
Psychiatric diagnosis, yes, n (%)	84 (93.3)	30 (100)	54 (90)	3.2 (1)	0.19	0.07
PTSD or ASD, n (%)	54 (60)	20 (66.7)	34 (56.7)	0.83 (1)	0.10	0.36
MDD, n (%)	25 (27.8)	8 (26.7)	17 (28.3)	0.03 (1)	-0.02	0.87
Number of diagnoses, mean ± SD	1.4±0.7	1.6±0.7	1.3±0.7	-1.9 (88)	-0.42	0.03
History of self-mutilation, yes, n (%)	44 (48.9)	18 (60)	26 (43.3)	2.2 (1)	0.16	0.14
History of suicide, yes, n (%)	39 (43.3)	16 (53.3)	23 (38.3)	1.8 (1)	0.14	0.18
History of psychiatry visit, yes, n (%)	79 (87.8)	30 (100)	49 (81.7)	6.3 (1)	0.26	0.01
History of psychiatric pharmacotherapy, yes, n (%)	71 (78.9)	28 (93.3)	43 (71.7)	5.6 (1)	0.25	0.02
Type of traumatic event				6.9 (2)	0.28	0.03
Sexual trauma, n (%)	43 (47.8)	10 (33.3)	33 (55)			
Physical trauma, n (%)	40 (44.4)	15 (50)	25 (41.7)			
Witnessing, n (%)	7 (7.8)	5 (16.7)	2 (3.3)			
Time since traumatic event, years, mean, SD	12.6±12.7	11.3±10.2	13.3±13.9	0.7 (88)	0.16	0.21

SD: standard deviation; df: degrees of freedom

Table 2. M-FAST, SCL-90 and cognition scores in the whole group and group comparisons

	Overall (N=90)	Possible malingerers (n=30)	Non-malingerers (n=60)	t (df)/χ^2(df)	ϕ/d	p
M-FAST total score, mean, SD	5±4.1	9.6±3	2.6±2	-13.2 (88)	2.4	<0.001
M-FAST RO, mean, SD	0.4±0.7	0.2±0.4	1±0.9	-4.8 (33.8)	0.6	<0.001
M-FAST ES, mean, SD	1.5±1.2	2.5±1.2	1±0.8	-6.1 (41.1)	0.9	<0.001
M-FAST RC, mean, SD	1.5±1.6	3.2±1.5	0.7±0.8	-8.8 (38.3)	1.1	<0.001
M-FAST UH, mean, SD	0.8±1	1.8±1.2	0.3±0.5	-6.7 (34.9)	0.8	<0.001
M-FAST USC, mean, SD	0.1±0.3	0.2±0.4	0.02±0.1	-2.7 (31.6)	0.3	0.006
M-FAST NI, mean, SD	0.6±0.5	0.8±0.4	0.5±0.5	-3.7 (74.4)	0.5	<0.001
M-FAST S, mean, SD	0.1±0.3	0.2±0.4	0.1±0.3	-1.3 (42.2)	0.3	0.1
SCL total score	184.7±75.6	241.9±46	156.2±71.4	-5.9 (88)	-1.34	<0.001
SCL-somatization	23.2±11.5	31.5±9.6	19.1±10.2	-5.53 (88)	-1.24	<0.001
SCL-OCD	23.1±8.8	27.9±6.9	20.7±8.7	-3.97 (88)	-0.89	<0.001
SCL-interpersonal sensitivity	20.3±9.2	25.4±5.8	17.8±9.6	-3.99 (88)	-0.89	<0.001
SCL-depression	32.2±12.6	38.9±7.8	28.8±13.2	-3.88 (88)	-0.87	<0.001
SCL-anxiety	21.6±10.5	29.6±7	17.5±9.6	-6.12(88)	-1.37	<0.001
SCL-anger hostility	12.2±6.7	16.4±4.7	10.1±6.5	-4.67(88)	-1.04	<0.001
SCL-phobic anxiety	11.4±7.7	17.2±6.1	8.5±6.7	-5.98(88)	-1.34	<0.001
SCL-paranoid thoughts	11.9±5.8	15.6±4.8	10±5.4	-4.8(88)	-1.07	<0.001
SCL-psychoticism	14±9.5	21±7.7	10.5±8.3	-5.78(88)	-1.29	<0.001
Block design test	21.6±11.1	18.3±12.1	23.3±10.3	-2.05(88)	0.46	0.02
Stroop test						
Interference time	47.9±24.9	53±26	45.3±24.2	-1.38 (88)	-0.31	0.09
Error count	1.5±2.9	2.1±3.8	1.3±2.3	-1.31 (88)	-0.29	0.1
Spontaneous correction	2.7±2.5	3.1±2.1	2.5±2.6	-1.08 (88)	-0.24	0.14

M-FAST: the Miller-forensic assessment of symptoms test; RO: reported versus observed; ER: extreme symptomatology; RC: rare combinations; UH: unusual hallucinations; USC: unusual symptom course; NI: negative image; S: suggestibility. SCL: symptom checklist; OCD: obsessive compulsive disorder.

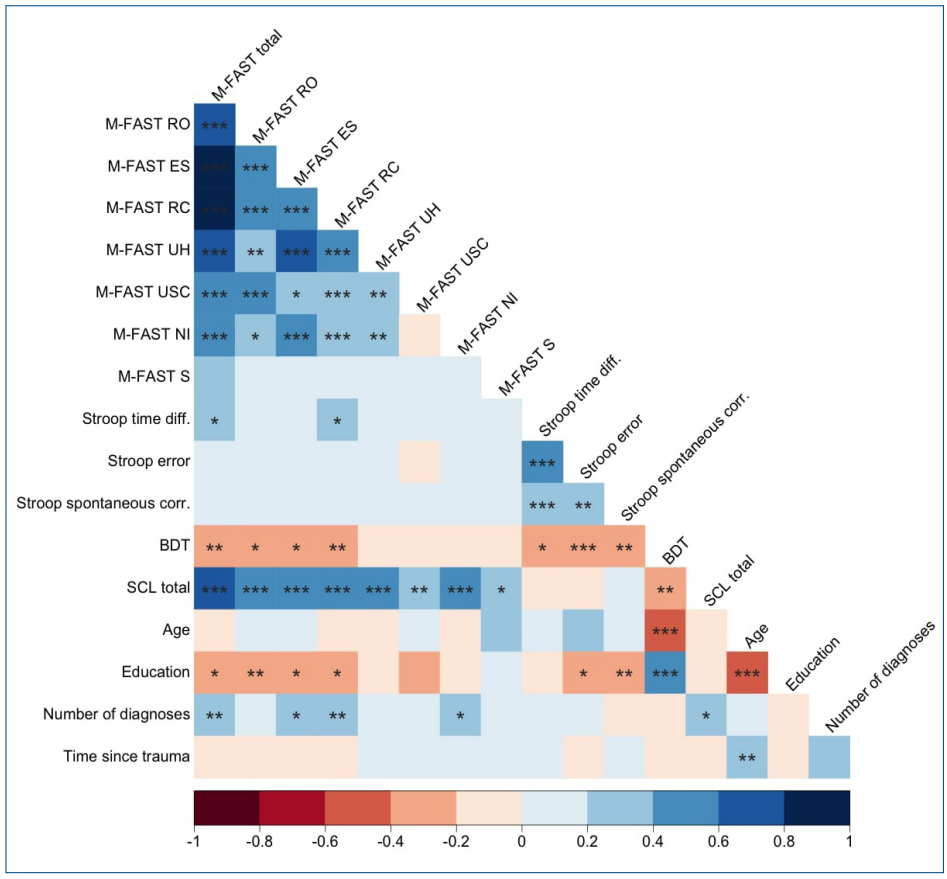

Figure 1. Correlations (r) of M-FAST scores with clinical scales and cognitive tests
(M-FAST: the Miller-forensic assessment of symptoms test; RO: reported versus observed; ES: extreme symptomatology; RC: rare combinations; UH: unusual hallucinations; USC: unusual symptom course; NI: negative image; S: suggestibility. SCL: symptom checklist; BDT: block design test; IGT: Iowa gambling test).

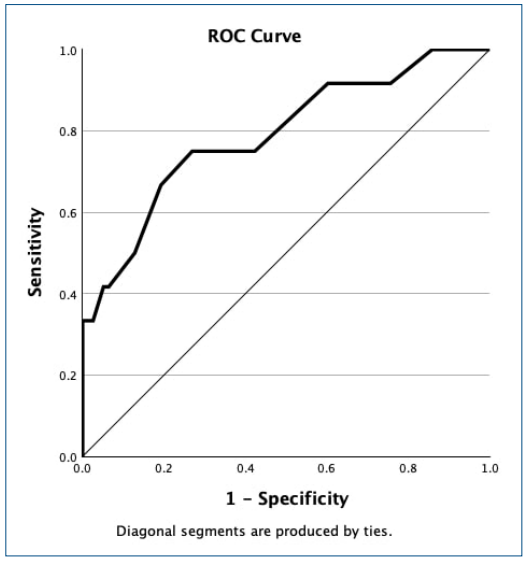

Figure 2. Receiver Operating Characteristic (ROC) curve for the M-FAST test in comparison to clinician judgment.

Table 3. Linear regression analysis

	M-FAST								
	Model 1			Model 2			Model 3		
	b	95% CI	p	b	95% CI	p	b	95% CI	p
Stroop IT	0.04	0.001; 0.07	0.04	0.03	-0.01; 0.06	0.10	0.03	-0.003; 0.06	0.07
BDT	-0.11	-0.19; -0.04	0.004	-0.11	-0.20; -0.02	0.02	-0.09	-0.17; 0.01	0.036
SCL-90 total	0.04	0.03; 0.05	<0.001	0.04	0.03; 0.04	<0.001	0.03	0.02; 0.04	<0.001

Model 1: Unadjusted model; Model 2: Adjusted for age, gender, years of education; Model 3: Adjusted for age, gender, years of education, number of psychiatric diagnoses, psychiatric history, self-mutilation history; M-FAST: the Miller-forensic assessment of symptoms test; SCL: symptom checklist; BDT: block design test; IT: interference time.

DISCUSSION

In our study, we found that the possible malingerer group had higher general psychopathology scores and difficulties in spatial reasoning, motor coordination, and problem-solving ability when compared to non-malingerer group. In our sample, M-FAST had fair to good discriminative ability to detect malingering.

Analysis of malingering scores in relation to neuropsychological test performance revealed a significant negative correlation between the BDT results and the M-FAST scores and a significant positive correlation between the Stroop interference effect and the M-FAST scores indicating worse executive functions. When we adjusted our linear regression analyses for several confounders including the number of psychiatric diagnoses, the relationship between Stroop interference effect and the M-FAST scores disappeared, but the relationship between the BDT scores and the M-FAST scores persisted. Previous studies have found that malingerers who tend to underperform on the Stroop test exhibit a reverse interference effect (22,23). However, we did not find such a relationship. The disappearance of the positive correlation observed in our study's correlation analysis upon regression analysis suggests that this situation is largely related to confounding factors. On the other hand, the persistence of the relationship between BDT scores, which also reflect executive functions and are part of the IQ test, and M-FAST scores might have several explanations. First, cognitive underperformance is common in malingering in which prevalence estimates ranging between 20% and 60% (24–26). In our sample, people with higher scores of malingering might be malingering cognitive tests. Second, people with a trauma history may have subthreshold symptoms of trauma-related disorders, depression and anxiety which may affect attention, memory and executive functions. Third, there might be overreporters who are exaggerating their symptoms to seek more attention from the physician or to maintain themselves in a sick role (i. e. factitious disorder) in our sample and these people cannot be distinguished from pure malingering by the M-FAST. Finally, the prevalence of personality disorders is common in malingerers (1,4,27,28) and cognitive impairment may be seen in personality disorders. In our study, we did not evaluate personality disorders. Therefore, it is not possible to rule out if our results are due to the comorbid personality disorders in our study.

We found that the SCL-90 total score and all subscale scores were higher in the possible malingerer group and positively correlated with the M-FAST score. High Scl-90 scores in possible malingerers might be seen as a natural outcome as the possible malingerer group had higher number of comorbid psychiatric disorders in our sample. However, the relationship between Scl-90 scores and the M-FAST score was independent of the number of diagnoses as indicated in our linear regression analyses. Therefore, high scores in Scl-90 might partly reflect malingering. It is known that self-report questionnaires are susceptible to malingering (29). This intentional misrepresentation poses significant challenges to the validity of self-reported data, leading to potential misdiagnoses and inappropriate treatment plans. Therefore, relying on self-report questionnaires to detect psychopathology in forensic settings might be misleading.

In our study, experienced blind clinicians evaluated all participants in terms of diagnoses and possibility of malingering. The M-FAST test correctly differentiated between individuals identified as positive or negative by the clinician 79% of the time. In the original study, Miller et al. (2014) has found an AUC of 0.95 in a forensic sample. In another study, an AUC of 0.99 was found in a non-clinical sample that indicates excellent diagnostic performance (13,14,30). Our sample was not totally a forensic sample as there were patients who applied for treatment only. There are concerns about low sensitivity of the M-FAST in trauma-exposed people in non-forensic settings (12,31,32). This might be the reason for lower diagnostic accuracy detected in our study when comparing the studies that were performed in true forensic settings.

Our findings indicate that malingering is more common in males, which is consistent with previous literature. Several studies have reported a higher prevalence of malingering among men, particularly in forensic and clinical settings (33–35). One potential explanation for this trend is that males may be more likely to engage in externalizing behaviors, including deception and manipulation, compared to females, who tend to exhibit more internalizing symptomatology such as anxiety and depression (2). These factors, combined with personality traits such as antisocial tendencies, which are more prevalent in males, may contribute to the observed gender differences in malingering.

We found that the number of psychiatric disorders, prevalence of history of psychiatry visit and history of psychiatric pharmacotherapy were higher in possible malingerers which was detected previously in few studies (28,36,37). Both previous and current psychiatric disorders may help malingerers to malinger or overreport psychiatric disorders.

The strengths of our study include the evaluation of malingering in those who came for treatment outside the forensic population, the use of M-FAST for the first time outside the forensic population, the evaluation of malingering as a continuum rather than dichotomic, and the investigation of the relationship of 40 different variables with malingering; however, in our opinion, the strongest aspect of our study is that the person conducting the study and the person who performed the routine psychiatric evaluation of the participant and whose opinion on malingering was requested were completely unaware of each other.

While the M-FAST was originally developed for the purpose of detecting malingering in psychotic and mood disorder contexts, its inclusion in the present study was based on its broad clinical utility and standardized administration across psychiatric populations. It has been demonstrated that several domains of the M-FAST, including dissociative experiences, cognitive lapses, and affective instability, exhibit overlap with trauma-related symptom presentations. Consequently, these domains hold partial relevance for trauma-exposed samples. However, the instrument's scope is limited in its coverage of trauma-specific phenomena, which constitutes a methodological limitation of the current study. Future research should incorporate complementary measures specifically validated for trauma-related malingering to enhance diagnostic precision in this population.

The weaknesses of the study are that the number of participants was limited to 90, the number of participants with the expectation of extrinsic gain, which we expect to see symptom overreporting, was only 25, the effect of statistical analyses decreased due to the heterogeneity of the traumas experienced and the diagnoses received by the participants, the lifelong traumatic experiences and the effect of the traumatic experience that caused us to come to us on the person were not examined separately, and the diagnostic interview was not conducted in a structured manner.

As a result, the M-FAST was designed to detect malingering in forensic populations. To the best of our knowledge, M-FAST was used for the first time in our study to assess malingering in people admitted to hospital for treatment. The rate of suspicion of malingering was significantly higher in the group with an M-FAST score of 7 and above.

For further studies, we found it necessary to include all lifelong traumatic experiences, including childhood traumas, in the evaluation of a more diagnostically homogeneous population, including the impact of

traumatic events and dissociative experiences, and to keep the number of participants higher.

SUPPLEMENTARY

https://www.noropsikiyatriarsivi.com/uploads/NPA_29185_EN_SUPPL.pdf

Ethics Committee Approval: Ethical approval for the study was obtained from the İstanbul Faculty of Medicine Ethical Committee (2021/2153-14/01/2022), and the study was conducted in accordance with the principles of the Declaration of Helsinki.

Informed Consent: Oral and written informed consents were obtained.

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