The MacArthur Competence Assessment Tool—Fitness to Plead: A Preliminary Evaluation of a Research Instrument for Assessing Fitness to Plead in England and Wales

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This study concerns the preliminary evaluation of an instrument, the MacArthur Competence Assessment Tool—Fitness to Plead (MacCAT-FP), for assessing competence to stand trial, according to the legal requirements in England and Wales. The purposes of the study were to ascertain whether the instrument can be administered practically to groups of prisoners, both those with mental illness and those without; to examine its internal consistency and interrater reliability; to determine whether it can distinguish between fit and unfit individuals, as judged by expert forensic psychiatrists; and to discover whether it is sensitive to changes over time. The instrument was administered to two groups of remanded prisoners: those transferred to psychiatric units for treatment and those without mental illness. In addition to the MacCAT-FP, scales measuring symptom severity and IQ were administered to all participants. Results suggest that the instrument is practical, with good internal consistency and interrater reliability. The correlation of scores with psychiatrists' opinions as to fitness was 0.77. Scores of unfit patients were significantly different from those of fit individuals. The instrument was able to detect significant differences in scores over time. It is suggested that once the instrument has been further validated for research purposes, it may be developed for clinical application.

J Am Acad Psychiatry Law 30:476–82, 2002

Fitness to plead in England and Wales is determined according to criteria that were established in case law in the mid-19th century. These specifically concerned the competence of the defendant, thus:

> . . .whether he can plead to the indictment or not and . . .whether he is of sufficient intellect to comprehend the course of proceedings of the trial, so as to make a proper defence, to know that he might challenge (jurors) to whom he may object and to comprehend the details of the evidence. . .it is not enough that he may have the general capacity of communicating on ordinary matters [Ref. 1, p 303].

Later cases have introduced the issue of whether the defendant was incapable of properly instructing his or her counsel because of the defendant's mental illness.[2] Increasingly, the question of an individual's capacity to give evidence in his or her own behalf has entered into the assessment of competence to stand trial. The *Pritchard* criteria may therefore be summarized thus: does the defendant understand the nature of the charge? Does he or she understand the difference between pleas of guilty and not guilty and their likely consequences? Can the defendant properly instruct legal representatives? Is he or she able to follow the trial and understand details of the evidence? A psychiatric opinion on these matters is currently

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the gold standard by which fitness to plead is determined.

In England and Wales a finding that a patient is unfit to plead may result in compulsory admission to a hospital for treatment under the Criminal Procedure (Insanity and Unfitness to Plead) Act (1991).[3] It is a statutory requirement under this Act that the court hear evidence from two suitably qualified psychiatrists about the defendant's fitness to stand trial. The process of making this assessment can delay the legal process and consume considerable resources in both the health care and criminal justice systems. However, there are currently no structured or standardized measures in the United Kingdom that can be used to aid assessment of a defendant's fitness to stand trial. The lack of any standardized method of translating the legal criteria into a medical judgment risks the process's becoming a subjective one. Little research examining fitness to plead has been conducted in England and Wales,[4] and the question of the validity and reliability of clinicians' judgements as to fitness has not been explored.

Competency Research in the United States

In North America, the approach in recent decades has been very different. Several instruments have been developed and tested in the United States and Canada in an attempt to standardize evaluations of the concept of adjudicative competence. Grisso[5] described four important characteristics that must be considered in developing an instrument for evaluating competence to stand trial. The evaluation procedure should: (1) ensure that each of the relevant legal constructs must be captured; (2) have quantitative measures that reflect performance in discrete legal domains; (3) include flexible, in-depth enquiries on legal issues that are guided by coherent legal theory; and (4) be administered in a standardized fashion that promotes inter- and intrarater reliability.[5]

Hoge *et al.*[6] reviewed several of the existing instruments including: the Competency Screening Test (CST),[7,8] the Georgia Court Competency Test (GCCT),[9] the Computer Assisted Competency Assessment Tool,[10] and the Interdisciplinary Fitness Interview.[11] They argued that none of these measures captures all the relevant legal concepts that make up adjudicative competence and that they were not underpinned by a theoretical framework of different competence abilities. Screening instruments such as the CST and GCCT, which result in a cutoff score, give the impression of being able to provide a yes/no answer, when, in fact, the constructs should be measured separately. In addition, some of the instruments lack standardized administration procedures, which are necessary to ensure the reliability of their results when used by different raters.

Bonnie[12] proposed a model of the minimum capacities required for adjudicative competence. According to this model, there are hierarchies of legal tests, which may be described as: the expression of choice; showing a basic understanding of the relevant information; appreciation of the significance of that information in terms of the individual's own case; and the ability to make a reasoned choice by comparing the possible risks and benefits of alternative options.[12]

MacArthur Structured Assessment of the Competence of Criminal Defendants

In the United States, Hoge *et al.*[6] developed and validated the MacArthur Structured Assessment of the Competence of Criminal Defendants (MacSAC-CD) to assess a defendant's fitness to plead based on legal theory of competence. The MacSAC-CD assesses competence-related abilities and names these as Understanding, Appreciation, and Reasoning. Understanding refers to the defendant's ability to understand relevant aspects of the criminal proceedings. Appreciation assesses defendants' capacity to appreciate their legal predicaments, specifically looking at whether delusional beliefs or other psychotic symptoms affect their ability to understand the nature and gravity of the criminal proceedings. Finally, reasoning refers to the defendants' ability to decide what facts are relevant to the defense of a hypothetical case. The results of the study demonstrated that the instrument was able to distinguish between known groups of fit and unfit defendants.

The 47-item measure was subsequently reduced to a 22-item clinical instrument, the MacArthur Competence Assessment Tool—Criminal Adjudication (MacCAT-CA). This was based on the legal framework given by the U.S. Supreme Court in *Dusky v. U.S.*[13]—namely, that the defendant must have a "rational as well as factual understanding" of the legal proceedings to be competent to stand trial. This instrument was evaluated by Otto *et al.*[14] and was found to have strong internal consistency and construct validity. Norms were derived regarding the

competence of defendants based on the performance on the questionnaire of 729 participants.

The MacCAT-CA[15] has been modified to test abilities according to the criteria for fitness to stand trial in England and Wales. These changes include, for example, omitting references to juries being involved in sentencing (a feature in some U.S. jurisdictions, but not in England and Wales) and adjusting offense designations, (e.g., replacing aggravated assault with grievous bodily harm). It has been subjected to review by both experienced forensic psychiatrists and legal practitioners, with a view to ensuring that its content captures all the relevant legal and clinical criteria. There were eight fully certified forensic psychiatrists and four practicing barristers involved in this exercise, each of them being satisfied that the items in the MacCAT-FP, when taken in total, addressed all concerns that they thought relevant in assessing or determining fitness to plead. This process has led to the development of a tool specific to England and Wales, the MacArthur Competence Assessment Tool—Fitness to Plead (MacCAT-FP). This article reports the findings of a preliminary evaluation of the new instrument.

Methods

Study Sample

Data were collected on two groups of prisoners, all of whom had been charged with an offense and were awaiting trial. The first group (the hospital group) comprised prisoners admitted to one of three forensic psychiatric units in London under Sections 48/49 of the Mental Health Act (1983),[16] having been judged in need of urgent treatment in a hospital (remanded prisoners needing psychiatric treatment in the United Kingdom, are transferred to health service hospitals, not treated in prisons). The second group (the prison group) comprised remanded prisoners (i.e., prisoners awaiting trial) who were randomly selected from a London prison as a control population.

Participants were excluded from the hospital group if they were deemed to be too disturbed, if the interviewer thought that the participant was unable to give valid consent to participating in the study due to the severity of the mental disorder, or if the participant was categorized as suffering from mental impairment or a psychopathic disorder. (The Mental Health Act (1983)[16] describes these terms. Mental impairment is defined as "a state of arrested or incomplete development of mind, not amounting to severe mental impairment, which includes significant impairment of intelligence and social functioning and is associated with abnormally aggressive or seriously irresponsible conduct on the part of the person concerned." Psychopathic disorder is defined as "a persistent disorder or disability of mind, whether or nor including significant impairment of intelligence which results in abnormally aggressive or seriously irresponsible conduct on the part of the person concerned" (Ref. 16, Sec. 1(2))).

Participants were excluded from the prison group if they had been receiving psychiatric treatment while awaiting trial or were currently in drug or alcohol detoxification programs. Those whose scores on the Brief Psychiatric Rating Scale (BPRS)[16] were more than two standard deviations above the mean for this group were also excluded, because the possibility of mental illness, diagnosed or otherwise, could not be discounted. Finally, non-English speakers (from both groups) who did not have a conversational grasp of English or were deemed to need an interpreter were excluded from the study. For the patient group, the study was approved by the Ethics Committees of Enfield and Haringey Health Authority, East London and City Health Authority, and Ealing, Hammersmith and Fulham Health Authority. For the prison group, the study was approved by the prison's Senior Medical Officer and the Headquarters of the Prison Service.

Study Measures

The MacArthur Competence Assessment Tool—Fitness to Plead

The MacCAT-FP consists of a 22-item instrument, 16 items of which are based on a hypothetical scenario, in which two men get into a fight and one is then charged with assaulting the other. The instrument is divided into three measures of Understanding, Reasoning, and Appreciation. These measures were devised by Hoge *et al.*[6] and are based on a theoretical model of abilities underlying the legal requirements for adjudicative competence in the United States. Scores on this measure can range from 0 to 44. (The authors of the MacCAT-CA do not recommend the use of total scores, but they were used in this study of the MacCAT-FP, in the research context.)

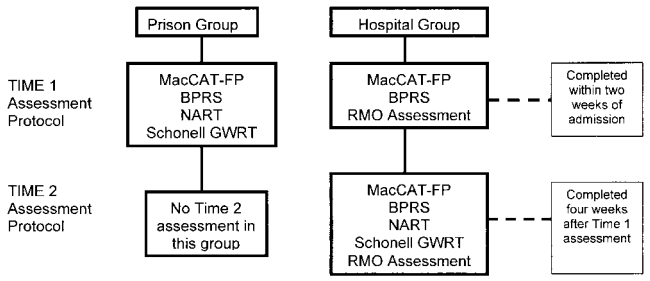

Figure 1. Design and assessment protocol of the study.

The Brief Psychiatric Rating Scale

The BPRS is a standardized interview-based assessment that provides a reliable and valid assessment of the participant's current mental state. The symptoms and behavior were rated on their occurrence during the previous week and during the interview situation. The 25-item version was used with the symptoms rating scale from 0 to 7, giving a maximum score of 175.

Intellectual Functioning

To estimate participants' cognitive and intellectual abilities, two reading-based tests were administered: the National Adult Reading Test (NART)[18] and the Schonell Graded Word Reading Test (Schonell GWRT).[19] An estimate of intellectual functioning (or IQ) was then calculated using the formula $124.3 - (0.503 \times \text{Total (NART + Schonell) Error Score})$, as outlined by Nelson.[18] Both the NART and the Schonell GWRT have good reported validity and reliability.[20–22]

Standard Fitness Criteria

The senior treating Forensic Psychiatrist gave an opinion as to whether each of those in the hospital group was fit to plead using the traditional Pritchard criteria.[1] Each criterion was rated as fulfilled, unfulfilled, or doubtful, and an overall opinion of the participants' fitness to plead was rated as "definitely yes," "definitely no," "probably yes," or "probably no." The psychiatrist was blind to the MacCAT-FP scores when assessing the participants. Participants in the hospital group were classed as unfit to plead if the psychiatrist expressed doubt as to his or her fitness to plead (either definitely no or probably no).

Figure 1 shows the two groups that participated in the study and the assessment protocol for both of these groups. At Time 1, the MacCAT-FP and the BPRS were administered to both groups. The NART and the Schonell GWRT were also administered to the prison group to provide an estimate of intellectual functioning. The NART and Schonell GWRT were administered to the hospital group at a later stage to minimize any possible confounding influence of their mental illness on their performance. Their senior treating forensic psychiatrist assessed those in the hospital group.

There was no Time 2 assessment for the prison group, because they were "normal" controls with no change expected in their performance over time. The hospital group had all the measures administered at Time 2 (including a repeat assessment by the psychiatrist as to fitness to plead), and the NART and GWRT were administered at this stage.

Analysis

Data were entered into a computerized database and analyzed using SPSS (version 10; SPSS Science, Chicago, IL). Internal consistency and inter-relater reliability of MacCAT-FP scorings were analyzed using the α and intraclass coefficient correlations, respectively. Receiver operating characteristics (ROC) analysis[23] was used in comparing the performance of the MacCAT-FP against clinical opinion. Independent t tests, paired t tests, and one-way analysis of variance (ANOVA) were used for comparative analysis.

Results

Study Sample

There were 45 patients in the hospital group, 41 men and 4 women. The group had a mean age of 32.22 ± 7.43 years (SD). There were approximately equal numbers of white (35.6%) and black (37.7%) patients. Patients of Asian origin constituted 15.6 percent of the hospital patients. Others (e.g., Chinese) made up just over 11 percent. There were 65 participants in the prison group, all men, of which 5 were excluded for having a BPRS score more than two standard deviations above the mean. This group had a mean age of 31.45 ± 8.57 years (SD). Almost half of these were white (45.5%) and more than a third were black (37.8%). Asians constituted 7.6 percent, and others made up just under 10 percent.

Internal Consistency

Alpha coefficients were used to assess the three measures within the MacCAT–FP (i.e., Understanding, Appreciation, and Reasoning). The values derived were .7437, .8455, and .8186, respectively. All

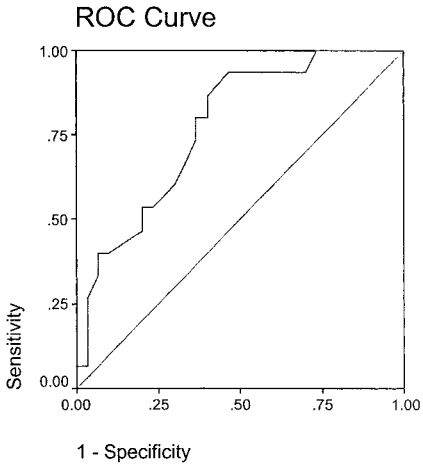

Figure 2. ROC curve comparing MacCAT-FP with psychiatrists' opinions. Diagonal segments are produced by ties. The upper line represents the performance of the instrument. The lower line (diagonal) represents chance performance.

of these equal or exceed the accepted values for research measures ($\alpha > .70$), but below the recommended values for decision-making instruments ($\alpha > .90$).[24] It was deemed important to re-evaluate the internal consistency of the instrument, after its modification as described earlier.

Interrater Reliability

Ten hospital patients were chosen randomly, and each had the MacCAT-FP and the BPRS administered by all raters (six total). The scores for different raters were compared (simple Pearson correlations) and ranged from .73 to .99 for the MacCAT-FP and from .89 to .96 for the BPRS. These results suggest that the different raters were in agreement in a high proportion of cases.

MacCAT-FP Compared with Clinical Opinions

An ROC analysis was used to compare the senior psychiatrists' opinions of each patient's fitness to plead with the patient's total scores on the MacCAT-FP. The ROC analysis (Fig. 2) demonstrated that the performance of the MacCAT-FP, as measured by the area under the curve, was .772—half as much again as would be expected simply by chance, which strongly suggests that the MacCAT-FP can correctly distinguish between fit and unfit patients.

Comparison of Hospital and Prison Groups

Data from Time 1 assessments of the hospital and prison groups were used, and were analyzed with independent *t* tests for independent samples. Tables 1 and 2 illustrate the mean scores obtained by the prison and hospital groups on the individual measures and the total MacCAT-FP, the BPRS, and the estimated IQ. (IQs were not estimated for 5 of the 45 hospital patients because they did not complete the Time 2 assessment for a variety of reasons, including not consenting or being discharged.) Statistical analysis revealed significantly higher scores ($p < .005$) for the prison group on the Understanding, Reasoning, and Appreciation measures of the MacCAT-FP compared with the hospital group. The prison group's total MacCAT-FP scores were significantly higher ($p < .005$). The prison group also achieved lower mean scores on the BPRS. There was no difference between the IQ scores of both groups. These data are comparable with the results from the study by Otto *et al.*[14] for their Hospital Incompetent and Jail Unscreened groups (Table 2).

Table 1 Comparative Scores of Hospital and Prison Groups on the MacCAT-FP Measures

Measure	Hospital Group ($n = 45$)	Prison Group ($n = 60$)	p	df
Understanding	8.93 ± 3.98	12.80 ± 2.14	.000*	62.90
Reasoning	8.44 ± 4.60	13.48 ± 2.74	.000*	66.95
Appreciation	6.71 ± 4.05	11.03 ± 0.99	.000*	47.97
Total	24.09 ± 10.83	37.32 ± 4.59	.000*	55.91
BPRS (Time 1)	44.29	26.22	.000*	42.12
IQ	95.48	93.06	.69	31.00

Data are mean scores ± SD.
* Statistically significant.

Comparison of Scores Over Time

Paired *t* tests for paired observations were used to analyze Time 1 and Time 2 BPRS scores and MacCAT-FP scores for the hospital group. Statistical analysis revealed that there was a significant decrease between Time 1 and Time 2 BPRS scores for the hospital group. Similarly, there was a significant improvement in MacCAT-FP scores for the hospital group between Times 1 and 2. This information is displayed in Table 3.

Table 2 Comparative Scores for Jail Unscreened and Hospital Incompetent Groups

Measure	Hospital Incompetent	Jail Unscreened
Understanding	9.11 ± 4.19	12.50 ± 3.08
Reasoning	9.33 ± 4.13	13.27 ± 2.64
Appreciation	7.89 ± 4.01	11.44 ± 1.01
BPRS	38.80 ± 10.04	29.16 ± 6.99
IQ	83.21 ± 14.05	85.23 ± 11.99

Data are mean scores ± SD. Data adapted, with permission, from Otto *et al.*[14]

Table 3 Changes in Scores on BPRS and MacCAT-FP for Hospital Group Between Times 1 and 2

	BPRS	Understanding	Reasoning	Appreciation	Total
Time 1	42.68	9.51	9.29	6.93	25.74
Time 2	39.26	11.13	10.55	8.13	29.74
p	.02*	.002*	.075	.125	.011*
df	30	30	30	30	30

$n = 45$.
* Statistically significant.

Comparison of Fit and Unfit in Hospital Group

The hospital group of patients was divided into fit ($n = 30$) and unfit ($n = 15$) subgroups, according to their psychiatrist's clinical opinion as to their fitness. Their scores on each of the MacCAT-FP, BPRS, and estimated IQ measures were then compared by one-way ANOVA. The BPRS scores for both groups were then broken down into subscales of Psychoticism, Depression, Withdrawal, and Hostility[25] and compared using the Mann-Whitney test.

The fit group obtained significantly higher scores on the MacCAT-FP measures of Reasoning and Appreciation, as well as on the total MacCAT-FP score. Their total BPRS scores were lower than those of the unfit group, but this did not reach statistical significance. When the BPRS scores of the fit and unfit hospital patients were broken down into subscales and compared, there was a statistically significant difference on the Psychoticism and Withdrawal subscales, with the unfit group having higher scores. On the Depression subscale, there was also a statistically significant difference between the two groups, but the fit group had higher scores. There was no statistically significant difference between the two groups on the Hostility subscale. There was no difference between the IQ scores of the two groups (Tables 4, 5).

Table 4 Comparative Scores of Fit and Unfit Hospital Patients on MacCAT-FP, BPRS, and IQ Tests

	Fit to Plead ($n = 30$)	Unfit to Plead ($n = 15$)	*F*	Significance
Understanding	9.83	7.13	5.024	.030*
Reasoning	9.73	5.87	8.204	.006*
Appreciation	8.37	3.40	22.351	.000*
Total	27.93	16.40	14.928	.000*
BPRS	43.33	46.20	0.558	.459
Predicted IQ	92.95	99.92	0.545	.582

Data are mean scores.
* Statistically significant.

Table 5 Comparison of Mean BPRS Subscale Scores for Fit and Unfit Hospital Patients

BPRS Subscale	Fit	Unfit	Difference	Mann-Whitney *Z*	Significance
Psychoticism	1.50	3.43	1.93	6.65	.000*
Withdrawal	1.30	1.90	0.60	5.03	.01*
Depression	1.79	1.24	−0.55	4.10	.000†
Hostility	1.92	2.00	1.03	1.24	.217

* Statistically significant.
† Significant negative association.

Discussion

This study has shown that the MacCAT-FP is practical to administer to remand prisoners, regardless of whether they suffer from a mental illness. It also appears to be internally consistent with good interrater reliability. It reflects differences in the mental states and competence capacities of prison inmates (normal control subjects) and hospital patients (test subjects) and seems sensitive to changes in these over time. The prison group performed significantly better than the hospital group on both the MacCAT-FP and the BPRS. Given that there was no difference between both groups as far as estimated IQ was concerned, the differences in performance between them cannot be ascribed to differences in intellectual functioning. This replicates findings from studies in the United States.[14]

Closer examination of the hospital group strongly suggests that the MacCAT-FP is also able to distinguish between fit and unfit patients. The results of the ROC analysis indicate that the MacCAT-FP's ability in this regard is better than would be expected simply by chance. At first glance, it is somewhat surprising that no significant difference in total BPRS scores was found between fit and unfit hospital patients. When the BPRS scores are broken down into subscales, however, it becomes clear that high scores on the Psychoticism and Withdrawal subscales are associated with being unfit to plead, and that a high score on the Depression subscale is associated with being fit to plead. It seems therefore that the MacCAT-FP is sensitive to the varying performance of individuals on each of these subscales. It also appears to be consistent with earlier findings that an inability to follow the proceedings of the trial or to give adequate instructions to legal representatives are most important in determining unfitness to plead.[26]

The question of why standardized instruments for assessing fitness to plead are important deserves some attention. It is not the purpose of this article to argue

that such instruments should completely replace clinical assessments of patients. Any psychiatrist will confirm that no two patients are exactly the same. Acceptance of this basic premise avoids arguments later in the process about whether the instrument provides less complete data to the court than a clinician would. There does seem to be some merit in using such instruments as screening tools, however, particularly in courts and during the admission process into prisons. A simple, and quick-to-administer instrument that can be used by nonpsychiatrists seems to be a sensible idea, flagging suspected unfit people for closer psychiatric scrutiny, with the advantages of improved efficiency and reduced costs. The involvement of such an instrument in the process may also serve to increase the confidence of the courts in the results of the evaluation.

There are several limitations to this study, of which the principal one is the sample size. However, the findings of this study are notably similar to those of Otto *et al.*[14] with the U.S. version and a much larger sample. Second, the extent of the participants' previous contact with the criminal justice system was not taken into account in this study. It could be argued that if a participant has an extensive forensic history then he or she will be more familiar with legal terms and procedures and may thus obtain a higher score on the MacCAT-FP, independent of fitness to plead. The validity and/or reliability of the judgements by the senior treating forensic psychiatrists was not explored, being beyond the scope of this article. The fact that these are currently the basis of determinations of fitness to plead by the courts has made their use as the standard against which the MacCAT-FP is measured inevitable. These limitations notwithstanding, I believe this study represents an important first step toward the goal of creating an objective method of assessing fitness to plead in the UK. It is my hope that this article stimulates debate and further research on this subject.

Acknowledgments

I thank my colleagues at Camlet Lodge Regional Secure Unit (RSU); The John Howard Centre, Hackney; and Three Bridges RSU, Ealing, for their help with the hospital subjects; Ms. Pauline Carr for help in recruiting prison subjects at HMP Pentonville; Ms. Louise Cumbley, Ms. Galya Goodman, Ms. Tracy Hever, Ms. Johanna Vine, and Ms. Sharon Smith, all assistant psychologists, for assistance in collecting the data for this study; and particularly Mr. Robert Blizard for statistical advice and assistance. I am grateful to Professors Norman Poythress and John Monahan and to Dr. David James for comments on earlier drafts of this article and Messrs. Andrew Hall and Nigel ffitch (counsel) for helpful legal advice.

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