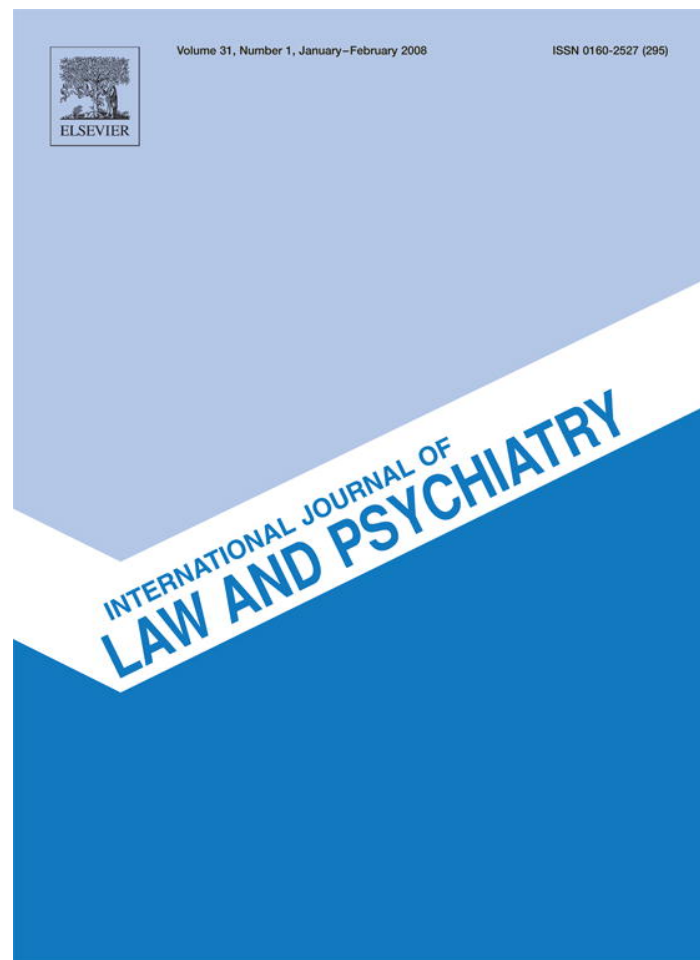


Provided for non-commercial research and education use.  
Not for reproduction, distribution or commercial use.



This article was published in an Elsevier journal. The attached copy is furnished to the author for non-commercial research and education use, including for instruction at the author's institution, sharing with colleagues and providing to institution administration.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



ELSEVIER

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)

International Journal of Law and Psychiatry 31 (2008) 9–18

---

---

**INTERNATIONAL JOURNAL OF  
LAW AND  
PSYCHIATRY**

---

---

# Functional mental capacity is not independent of the severity of psychosis

Emer Rutledge, Miriam Kennedy, Helen O'Neill, Harry G. Kennedy\*

*Central Mental Hospital, Dundrum, Dublin 14, Ireland*

---

## Abstract

*Background:* Function-specific mental capacities are the legal criteria for competence. These are regarded as superior to clinical assessments of mental state and general function.

*Aims:* To determine whether tests of fitness to plead and capacity to consent are independent of each other and independent of mental state and global function in psychosis.

*Method:* The MacCAT-T and MacCAT-FP, PANSS and GAF were administered to 102 compulsorily detained forensic patients with psychosis. Criteria for incompetence were inability to express a preference concerning treatment, and independent rating as unfit to plead.

*Results:* MacCAT-T, MacCAT-FP totals and sub-scales correlated with each other and with PANSS and GAF. Those independently rated unfit to plead or who were incapable of making a treatment choice scored significantly worse on all rating scales. No test had satisfactory sensitivity or specificity.

*Conclusions:* Legal definitions of mind and of functional capacity offer a basis for structured clinical judgement regarding decision-making capacity. However, function-specific measures of understanding, reasoning and appreciation generate much the same results as measures of mental state and global functioning.

*Declaration of interest:* None.

© 2007 Elsevier Inc. All rights reserved.

---

## 1. Introduction

Recent research has identified groups of patients who are detained under mental health legislation but appear to retain functional mental capacity to consent to treatment (Cairns et al., 2005a). In law, a person is competent to perform a legally significant act if he can be shown to have the relevant functional mental capacities to make the necessary decisions (Roth et al., 1977, Lambe, 1995). For legal purposes, functional capacities are held to be specific to the task in hand, and it is assumed that some functional capacities can be intact even while others are impaired (Law Commission, 1995). According to this legal paradigm, a person may be incapable of understanding his right to remain silent when interviewed by the police, but fit to plead in court, or vice versa. Similarly, a person with delusions may be a danger to

---

\* Corresponding author. Tel.: +353 1 298 9266; fax: +353 1 298 9268.

E-mail address: [harry.kennedy@ireland.com](mailto:harry.kennedy@ireland.com) (H.G. Kennedy).

him or her self or others so as to require involuntary admission to hospital, but may be assessed as retaining the capacities required to give or withhold valid consent to treatment. The US Supreme Court however has held that there is a unitary concept of competency in criminal trials ([Godinez v Moran, 1993](#)) so that the same standard of capacity is required whether to plead guilty, plead not guilty or waive the right to legal representation. The Council of Europe Recommendations concerning the protection of the rights and dignity of persons with mental disorder ([Council of Europe, 2004](#)) distinguishes between involuntary placement and involuntary treatment, but does not go so far as others who suggest that all legislation dealing with mental competence, including mental health legislation, should be grounded exclusively in tests of functional mental incapacity ([Szmukler & Holloway, 1998](#)), which should be superior to mental health legislation ([Law Reform Commission, 2003](#)). These ethical or legal doctrines derive from legal reasoning, and have seldom been subjected to scientific testing. The claim that tests of functional capacity are superior to clinical assessment of mental state or global functioning rests on two assumptions which are essential for legal purposes: the specificity or independence of mental capacities for each function, and the validity of making a categorical distinction between those who are capable and incapable. We set out to test these assumptions for patients admitted to a forensic hospital with a psychosis.

## 2. Methods

All subjects were interviewed by post-membership psychiatrists (ER and MK), trained in the use of the research instruments. Inter-rater reliability was assessed by joint interviewing (Cohen's kappa for the two MacArthur instruments greater than 0.946 for all sub-scales). All subjects were assured of confidentiality and gave informed consent to participate in the study, which had been approved by the hospital research ethics committee. Statistics were calculated using SPSS-12. Each subject was assessed on a single day.

### 2.1. Sample

The Central Mental Hospital is the only hospital in Ireland that admits patients remanded or sentenced to prison, or found legally insane. More than half of the patients admitted (56%) would be sent by way of court diversion schemes to local psychiatric services in other jurisdictions, and only 17% would meet criteria for maximum security in other jurisdictions, so that the patients included here are typical of those detained in other jurisdictions under both forensic and civil mental health legislation ([O'Neill et al., 2002, 2003](#)). Between November 2003 and March 2005 211 patients were admitted of whom 181 had a psychotic mental illness. Of these, 102 (56%) consented to participate in the study and spoke adequate English. Diagnoses (ICD-10 diagnostic criteria, [WHO, 1993](#)) included schizophrenia (83), schizoaffective disorder (7), bi-polar disorder (6) and psychotic depression (6). Ninety three (91.2%) were male. The mean age was 38.1 years (95% confidence interval 34.9 to 41.2).

At the time of admission to hospital all had been remanded into prison custody pending trial on criminal charges, then certified under mental health legislation and transferred for psychiatric treatment to the Central Mental Hospital, Dundrum, Dublin. All therefore needed court reports concerning their psychiatric status in order to assist the courts in disposing of their cases, and all needed anti-psychotic medication for their severe mental illnesses.

### 2.2. Measurement instruments

The most extensively researched and validated instruments for the measurement of functional capacities emphasize the capacities to understand relevant information, to reason about the task in hand, and to appreciate the relevance of the information and reasoning to one's self ([Grisso, 2003](#)). These capacities were directly relevant to the situation of the patients tested: the MacArthur Competence Assessment Tool-Fitness to Plead (MacCAT-FP) ([Akinkunmi, 2002](#)) and the MacArthur Competence Assessment Tool-Treatment (MacCAT-T) ([Grisso & Appelbaum 1995, Grisso Appelbaum, Hill-Fotouhi, 1997](#)).

The MacCAT-FP has been validated for use in England ([Akinkunmi 2002](#)), based on a tool developed for use in the USA ([Hoge et al., 1997](#)). A vignette is read to the person being tested and questions are asked so that the researcher can rate the three mental capacities understanding, reasoning and appreciation relevant to the patient's impending trial.

The MacCAT-T also measures understanding, reasoning and appreciation, in relation to proposed treatment. In addition it records whether the patient was able to make a choice or not. It has also been validated for use in England ([Cairns et al., 2005b](#)). To rate the MacCAT-T for this study, all participants were offered information first about their illness, then about two oral anti-psychotics, olanzapine and risperidone. The information provided was read from a prepared script derived from the data sheets and summary of product characteristics as agreed with the regulatory authority ([Irish Pharmaceutical Healthcare Association, 2001](#)). Participants

were given two benefits of each medication and two possible side effects of each. They were also given two benefits and two possible adverse effects of having no medication. Participants were then divided into three groups according to whether they chose one or other anti-psychotic, neither medication, or could not express a choice.

For abnormalities of mental state we used the Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987) which yielded scores for positive and negative symptoms, general symptoms and a total score. We also used the Global Assessment of Functioning scale (GAF) (American Psychiatric Association, 2000) as a measure of general competence.

### 2.3. 'Criterion' tests

We found that at the time of the assessment, 23 (22.5%) of the subjects were rated unfit to plead by their treating psychiatrist and 27 (25.5%) did not express a choice in relation to treatment. We took these as two criterion tests for competence in relation to specific functions that would be accepted in legal settings. Sixty six were competent by both criterion tests; 36 were either unfit to plead or did not express a treatment choice, of whom 13 were both unfit to plead and failed to express a treatment preference. The two 'criterion' tests were not statistically independent (Chi-squared=15.1,  $df=1$ ,  $p<0.001$ ).

Of the 75 (74%) subjects who were able to express a choice regarding medication, 44 subjects said they would accept one or other drug and 31 said they would not accept either of the drugs.

### 2.4. Statistical analysis

Non-parametric tests were used to avoid assumptions regarding the distribution of the variables generated by the measurement instruments. Spearman's rank correlation coefficient was used for the same reason. Receiver operating characteristics were calculated for each variable relative to both of the criteria outlined above, and a composite criterion, failure of either test. All data were entered and tests calculated using SPSS-12.

## 3. Results

We found that those who were clinically rated unfit to plead, like those who were unable to express a decision regarding medication, had significantly lower scores for measures of capacity in both 'functional' tests.

Those who could not express any preference for a treatment option scored significantly lower on measures of functional capacity, both for capacities related to consent to treatment and for fitness to plead (Table 1).

Table 2 shows that there was a trend for all measures of capacity so that those who chose a drug scored higher than those who refused both drugs, while those who could not choose had the lowest scores. Further testing showed that all comparisons between those who accepted a drug and those who could not make a choice were significantly different. For the MacCAT-T, those who

Table 1  
Measures (means) of functional mental capacity, general psychopathology and global function in those who made a treatment choice compared with those who could not choose

	Makes a choice	Cannot choose	Mann–Whitney <i>U</i>	
Number of subjects	75	27	<i>Z</i>	<i>p</i>
MacCAT-T				
Understanding	4.2	1.7	−5.2	0.001
Reasoning	3.3	0.5	−4.5	0.001
Appreciation	2.0	0.6	−3.8	0.001
Total	9.6	2.8	−5.3	0.001
MacCAT-FP				
Understanding	10.9	4.5	−4.9	0.001
Reasoning	7.2	2.3	−5.1	0.001
Appreciation	8.3	2.4	−5.2	0.001
Total	26.4	9.2	−5.1	0.001
PANSS				
Positive	13.7	23.7	−5.1	0.001
negative	20.9	27.8	−1.5	0.127
General	32.2	42.6	−3.8	0.001
total	66.7	90.1	−4.4	0.001
GAF				
	55.6	33.1	−4.7	0.001

Table 2

Measures (means) of functional mental capacity, general psychopathology and global function in those who accept a drug, refuse both drugs offered or cannot choose

	Accepts one or other drug	Refuses both drugs	Cannot choose	Kruskal–Wallis $X^2, df=2, p$		Mann–Whitney $U, df=1, p$		
	Column A	Column B	Column C	Overall comparison		A v. B	B v. C	A v. C
Number of subjects	44	31	27	$X^2$	$p$			
<b>MacCAT-T</b>								
Understanding	4.8	3.5	1.6	36.9	0.001	0.005	0.001	0.001
Reasoning	4.7	1.5	0.5	46.3	0.001	0.001	0.101	0.001
Appreciation	2.6	1.1	0.6	31.5	0.001	0.001	0.142	0.001
Total	12.2	6.2	2.7	49.3	0.001	0.001	0.002	0.001
<b>MacCAT-FP</b>								
Understanding	11.9	9.9	4.3	30.3	0.001	0.04	0.001	0.001
Reasoning	7.8	6.5	2.3	29.3	0.001	0.159	0.001	0.001
Appreciation	9.5	6.9	2.4	30.5	0.001	0.002	0.001	0.001
Total	29.1	23.4	8.9	34.3	0.001	0.001	0.001	0.001
<b>PANSS</b>								
Positive	12.8	14.3	24.1	30.0	0.001	0.108	0.001	0.001
negative	19.3	23.4	23.5	6.7	0.035	0.023	0.932	0.041
General	30.7	33.9	42.7	19.0	0.001	0.088	0.006	0.001
total	62.7	71.4	90.3	24.9	0.001	0.034	0.001	0.001
<b>GAF</b>								
	59.6	50.6	33.0	28.1	0.001	0.03	0.001	0.001

refused medication had scores which closely resembled those who could not choose. For the MacCAT-FP however, those who refused medication scored closer to those who accepted medication, and significantly better than those who could not choose.

Table 3 shows that the MacCAT-FP scales for reasoning, understanding, appreciation and total score differentiated those who were clinically rated unfit to plead, as did the MacCAT-T scales. Table 4 shows that the combined criterion, those with either or both incapacities (unable to make a treatment choice or clinically unfit to plead) produced the clearest distinction between the capable and incapable, with significantly different scores on all capacity scales.

We found that there was a consistent trend for measures of psychopathology to follow the same pattern (Tables 1 and 2), with higher scores for positive symptoms on the PANSS (delusions and hallucinations) in those who refused any drug and highest scores

Table 3

Measures of functional mental capacity, general psychopathology and global function in those who were rated unfit to plead by their treating consultant psychiatrist compared with those who were rated fit to plead

	Fit to plead	Not fit to plead	Mann–Whitney $U/p$	
	79	23	$z$	$p$
<b>MacCAT-T</b>				
Understanding	4.1	1.6	-4.7	0.001
Reasoning	3.1	1.1	-3.3	0.001
Appreciation	1.9	0.8	-2.8	0.005
Total	9.1	3.6	-4.4	0.001
<b>MacCAT-FP</b>				
Understanding	10.7	4.6	-4.1	0.001
Reasoning	7.0	2.2	-4.7	0.001
Appreciation	8.0	2.7	-4.3	0.001
Total	25.7	9.4	-4.7	0.001
<b>PANSS</b>				
Positive	13.7	24.8	-4.5	0.001
Negative	21.6	22.0	-0.3	0.79
General	32.3	43.5	-3.7	0.001
Total	67.5	90.4	-3.8	0.001
<b>GAF</b>				
	55.5	30.3	-5.0	0.001

Table 4

Measures (means) of functional mental capacity, general psychopathology and global function in those who were either incapable of making a treatment decision or assessed as clinically unfit to plead by their treating consultant psychiatrist compared with those who were capable by both criteria

	No incapacity	Either incapacity	Mann–Whitney <i>U/p</i>	
Number of subjects	67	35	<i>Z</i>	<i>p</i>
<b>MacCAT-T</b>				
Understanding	4.4	2.0	−5.4	0.001
Reasoning	3.5	1.02	−4.4	0.001
Appreciation	2.1	0.83	−3.6	0.001
Total	9.9	3.9	−5.2	0.001
<b>MacCAT-FP</b>				
Understanding	11.2	5.6	−4.6	0.001
Reasoning	7.5	2.9	−5.3	0.001
Appreciation	8.6	3.4	−4.9	0.001
Total	27.3	11.9	−5.1	0.001
<b>PANSS</b>				
Positive	13.2	22.1	−4.7	0.001
negative	20.9	23.3	−1.4	0.156
General	31.8	40.7	−3.6	0.001
Total	65.7	85.9	−4.1	0.001
<b>GAF</b>				
	56.9	36.2	−4.8	0.001

in those who could not make a choice. This also held true for GAF scores with highest scores (better function) for those who chose a drug and lowest for those who could not express a choice. Comparisons using the PANSS positive symptoms scale, general symptoms, total score and the GAF score between those who accepted a drug and those who could not make a choice were statistically significant.

A correlation matrix (Table 5) shows that the three MacCAT-T scales for understanding, reasoning and appreciation correlated significantly with each other (Spearman’s rho range +0.64 to +0.92) and the three MacCAT-FP scales also correlated with each other (Spearman’s rho range +0.72 to +0.92), while the cross-correlations between the function-specific sets of pairs of capacities were also strong (understanding scales +0.79, reasoning scales +0.58, appreciation scales +0.49). Correlations of different capacities across the two rating scales were also strong (Spearman’s rho range +0.45 to +0.74).

In keeping with this convergence of the functional capacity tests, the items of the MacCAT-T taken together as a single scale have strong internal consistency (Cronbach’s Alpha=0.897). The items of the MacCAT-FP also perform well as a single scale (Cronbach’s Alpha=0.953). The six sub-scale scores of the two interview rating scales are also internally consistent (Cronbach’s Alpha=0.866), with no single item, if deleted, improving the score.

The scores for functional mental capacities correlated with measures of mental state and global functioning (Table 6). The GAF score was correlated with each of the six capacity sub-scales (Spearman rho range +0.52 to +0.66). The PANSS sub-scales were all

Table 5

Cross-correlation of functional capacity sub-scales; Spearman rank correlations, all significant at  $p < 0.01$

	MacCAT-Treatment				MacCAT-Fitness to plead			
	Understanding	Reasoning	Appreciation	Total	Understanding	Reasoning	Appreciation	Total
<b>MacCAT-T</b>								
Understanding								
Reasoning	0.74							
Appreciation	0.64	0.67						
Total	0.89	0.92	0.83					
<b>MacCAT-FP</b>								
Understanding	<b>0.79</b>	0.64	0.49	0.74				
Reasoning	0.74	<b>0.58</b>	0.45	0.69	0.79			
Appreciation	0.69	0.66	<b>0.49</b>	0.71	0.74	0.72		
Total	0.82	0.70	0.53	<b>0.79</b>	0.92	0.89	0.89	

Table 6

Cross-correlations of measures of functional mental capacity, general psychopathology (PANSS) and global assessment of functioning (GAF); Spearman rank correlations, all significant at  $p < 0.01$

	GAF	MacCAT-Treatment				MacCAT-Fitness to plead			
		Understanding	Reasoning	Appreciation	Total	Understanding	Reasoning	Appreciation	Total
PANSS									
Positive	-0.83	-0.58	-0.56	-0.51	-0.63	-0.56	-0.61	-0.64	-0.66
Negative	-0.37	-0.41	-0.51	-0.23	-0.43	-0.41	-0.35	-0.36	-0.40
General	-0.72	-0.57	-0.61	-0.44	-0.64	-0.55	-0.56	-0.61	-0.62
Total	-0.75	-0.65	-0.68	-0.47	-0.69	-0.63	-0.62	-0.67	-0.69
GAF		+0.57	+0.57	+0.52	+0.63	+0.58	+0.66	+0.62	+0.68

inversely correlated with the functional capacity sub-scales: positive symptoms (Spearman rho range  $-0.51$  to  $-0.64$ ), negative symptoms (Spearman rho range  $-0.23$  to  $-0.51$ ); general symptoms (Spearman rho  $-0.44$  to  $-0.61$ ) and the total PANSS score (Spearman rho  $-0.47$  to  $-0.68$ ). The total PANSS score was most often the strongest correlate with the functional incapacity sub-scales and total scores, but the GAF scores performed almost as well.

The MacCAT-FP total score correlated with the MacCAT-T total score (Spearman rho  $=+0.772$ ,  $p < 0.01$ , Pearson  $r = +0.745$ ,  $p = 0.01$ ). Partial correlation controlling for the PANSS total score reduced this correlation, though it remained significant (partial  $r = +0.502$ ,  $p = 0.001$ ). Controlling instead for the GAF score reduced the partial correlation to  $+0.552$  ( $p < 0.001$ ), while controlling for both PANSS total score and GAF reduced the partial correlation to  $+0.471$ .

If the inability to make a choice between treatment options is taken as the criterion of incapacity, then the receiver operating curve (ROC) can be calculated for the total MacCAT-FP score, the total MacCAT-T score, the total PANSS score and the GAF (Table 7). The area under the curve (AUC) for all four measures differs significantly from the line of no information. For practical purposes, when thresholds are taken for these scales to classify individuals as incompetent with a probability greater than 90%, the false positive rate is always greater than 30%. Reducing the false positive rate to 10% cuts the true positive rate to below 50%. Table 8 (unfitness to plead criterion), and Table 9 (combined incapacity criterion) show similar performances.

## 4. Discussion

### 4.1. Study limitations

The patients admitted to a forensic psychiatry service may be regarded as too specific a population for generalisations to other settings. However the Irish service admits a much greater number of patients from the population served than equivalent forensic services elsewhere, many of whom would be admitted to local services in other jurisdictions. The patients described here are representatives of those with psychosis who are compulsorily detained and who most often present the need for difficult decisions regarding consent and compulsion. Nor is there any reason to suppose that patients with psychosis who are legally detained in other settings would have different mental state or mental capacity characteristics.

Table 7

ROC characteristics for inability to make a choice between treatment options as criterion of mental incapacity ( $n = 102$ )

	Area under the curve	95% confidence interval	Asymptotic significance (null hypothesis: true area = 0.5)	Threshold score	Sensitivity (true positive rate)	1-Specificity (false positive rate)
MacCAT-FP total	0.837	0.742 to 0.931	0.001	6.5	0.90	0.46
MacCAT-T total	0.849	0.773 to 0.925	0.001	33	0.32	0.10
PANSS total	0.789	0.692 to 0.887	0.001	7.35	0.07	0.10
GAF	0.810	0.717 to 0.903	0.001	40.5	0.90	1.0
				118	0.0	0.10
				27.5	0.90	0.51
				60.5	0.43	0.10

Table 8  
ROC characteristics for clinician's rating of unfitness to plead as criterion of mental incapacity ( $n=102$ )

	Area under the curve	95% confidence interval	Asymptotic significance (null hypothesis: true area=0.5)	Threshold score	Sensitivity (true positive rate)	1-Specificity (false positive rate)
MacCAT-FP total	0.824	0.714 to 0.934	0.001	6.5	0.90	0.39
				32	0.37	0.10
MacCAT-T total	0.800	0.686 to 0.914	0.001	1.34	0.90	0.435
				12.7	0.304	0.10
PANSS total	0.762	0.635 to 0.889	0.001	42	0.90	1.0
				123	0.90	0.10
GAF	0.843	0.789 to 0.948	0.001	30.5	0.90	0.348
				59	0.34	0.10

Only 56% of those eligible agreed to participate, but this reflects the difficulty of research with the most severely ill of patients. This emerges as one of the most interesting findings in this study and is in keeping with other published studies using these instruments (Cairns et al., 2005a,b).

The issue of capacity to consent to research of this sort when patients are likely to be incompetent to give consent is a matter for research in its own right. No normal control group is included because no such group could be expected to address the personal applicability of the information and choices presented e.g. in relation to the need for anti-psychotic medication because of a diagnosis of schizophrenia or bi-polar affective disorder.

Our use of an objective criterion for incapacity – inability to express a choice, is a more rigorous and we believe a more objective criterion for research purposes than the use of a form of words such as that in the Mental Capacity Act 2005 for England & Wales.

#### 4.2. Main findings

We found that tests of functional capacity directly relevant to the situation of the patients (fitness to plead and consent to treatment) distinguished those who were capable or incapable according to criterion tests, but performed with a substantial overlap between tests for apparently distinct functional capacities. These data suggest that the legal assumption that functional capacities such as fitness to plead and capacity to give or withhold consent are separable and independent is flawed, at least in relation to severe mental illness; and the concept that mental capacities such as understanding, reasoning and appreciation are separable and independent is also not supported by the data. There appears instead to be a single underlying source of impairment of mental capacity in this group of patients. Further, any attempt to divide individuals into the capable and the incapable according to the legal paradigm of functional capacities must carry with it a substantial error.

Table 9  
ROC characteristics for either incapacity, inability to make a choice between treatment options, unfitness to plead or both as criterion of mental incapacity ( $n=102$ )

	Area under the curve	95% confidence interval	Asymptotic significance (null hypothesis: true area=0.5)	Threshold score	Sensitivity (true positive rate)	1-Specificity (false positive rate)
MacCAT-FP total	0.807	0.712 to 0.902	0.001	10.5	0.90	0.48
				33	0.33	0.10
MacCAT-T total	0.813	0.726 to 0.901	0.001	1.72	0.90	0.543
				10.6	0.448	0.10
PANSS total	0.749	0.649 to 0.849	0.001	40.5	0.90	1.0
				114	0.0	0.10
GAF	0.788	0.696 to 0.880	0.001	33	0.90	0.486
				60.5	0.478	0.10

The tests of functional capacities correlated inversely with scores for severity of psychosis, particularly positive symptoms such as delusions and hallucinations. Similarly, the Global Assessment of Functioning score was positively correlated with the functional capacity scores. Since assessments of mental state such as the PANSS and measures of global function (GAF) perform almost as well as the instruments for assessing functional capacity, they may be more practical and useful in the very disturbed. There are however some indications of specificity in relation to the MacArthur measurement instruments. It is apparent from the correlation coefficients and from partial correlation tests that about 30% of the variance in functional capacity scores might be accounted for by the psychosis scores and a measure of global functioning. However a further 25% of the variance in functional capacity scores remains, apparently measuring something else that is distinct from positive, negative or general symptoms of psychosis, or global function.

Concerning the functional capacity to consent to treatment, we found a general tendency for those who assented to treatment to have significantly higher (better) scores on capacity scales than those who could not make a choice. Those who refused any medication consistently had an intermediate score on capacity scales, lower than those who accepted medication.

Measures of current mental state followed the same pattern, with positive symptoms (delusions and hallucinations) and total scores differentiating those who refused treatment from those who accepted medication, so that those who were unfit to plead or unable to choose between treatment options had the highest scores for severity of psychosis. However this should be interpreted with caution. It is possible that those who said they would accept one or other of the medications offered were those who had already benefited from these medications by the time of the study, or had previous good experiences of the modern medications described, while those who were unwilling to have medication had experienced failure or severe side effects when treated with various medications. All of this offers fruitful material for future research. To improve on the present paradigm would require a prospective study prior to the initiation of medication, though the proportion of those eligible and willing to participate would probably be less than in this study.

Although the functional capacity scales are measuring something directly relevant and distinguishable from positive and negative symptoms, they are at their best as quantitative rather than qualitative indicators of impaired capacity. Using inability to make a treatment choice as an objective and stringent criterion, the rating scales are significantly better than chance at identifying those who are incapacitated, but they cannot identify cases either on the balance of probabilities or at a 90% true positive rate without substantial false positive rates.

#### *4.3. Legal implications*

Only 56% of eligible patients participated, because functional capacity often cannot be assessed in the severely ill when it is most necessary. Status tests therefore must still have a place in mental health legislation, e.g. permitting treatment in the first weeks following commitment to hospital.

We conclude that many of those who refused treatment did so not because they have exercised intact mental capacities to make a personal decision, but because of impaired mental capacities as measured by these instruments, or other impairments manifested in the positive symptoms of psychosis, or a combination of both. A proportion of those who assented to treatment are likely also to have been substantially impaired in their mental capacities. Further research is required to test whether it is possible to distinguish objectively between distinct groups who refuse treatment due mainly to impaired functional capacity, due mainly to positive symptoms of psychosis, due to combinations of both, or for personal reasons while mentally intact.

The paradigm used here in the assessment of competence to consent to treatment raises interesting questions regarding the legal criteria for valid consent. The perceived duress of compulsory detention may in itself be enough to invalidate expressed consent, just as passive acquiescence in the absence of capacity, and variable, inconsistent consent are also invalid.

#### *4.4. Clinical implications*

Finally, it would appear that the current preference for legal tests of functional capacity over clinical assessment of psychiatric diagnosis, mental state and ability to give valid consent (e.g. Dawson & Szukler 2006) is for the time being, merely a theory that has gained currency in excess of the evidence to support it. The view that tasks of varying complexity require proportionately greater or lesser levels of mental ability, whether mental ability is seen as composed of separable faculties or a common or global mental integrity, is more robust. The constructs of understanding,

reasoning and appreciation as measured by the MacArthur tools are valuable research instruments and useful teaching aids for structured clinical judgement, so that clinicians can work towards consistent and reviewable decision making.

### Clinical implications

- Formally detained patients with psychosis who were unfit to plead or unable to express a choice regarding treatment had significant impairments of mental capacity but these were not function-specific.
- Patients who refused medication had impairments intermediate between those who chose medication and those who could not express a choice.
- Measures of positive symptoms of psychosis and global functioning were as useful as measures of functional mental capacity in distinguishing the competent from the incompetent.
- The legal constructs of understanding, reasoning and appreciation as assessed by the MacArthur instruments are a useful basis for structured clinical judgement.

### Limitations

- The use of a forensic patient group may limit generalisability.
- Only 56% of eligible patients participated – suggesting that functional capacity often cannot be directly assessed in the severely ill when necessary – status tests still have a place in mental health legislation.
- Legal constructs such as ‘functional capacity’ may by their nature reject scientific generalisability or falsifiability – despite scientific evidence such as this.

### References

- Akinkunmi, A. A. (2002). The MacArthur Competence Assessment Tool-Fitness to Plead: A preliminary evaluation of a research instrument for assessing fitness to plead in England and Wales. *Journal of the American Academy of Psychiatry and the Law*, 30, 476–482.
- American Psychiatric Association (2000). *Diagnostic and statistical manual of mental disorders*, Fourth Edition Washington: American Psychiatric Association Text Revision.
- Cairns, R., Maddock, C., Buchanan, A., David, A. S., Hayward, P., Richardson, G., et al. (2005). Prevalence and predictors of mental incapacity in psychiatric in-patients. *British Journal of Psychiatry*, 187, 379–385.
- Cairns, R., Maddock, C., Buchanan, A., David, A. S., Hayward, P., Richardson, G., et al. (2005). Reliability of mental capacity assessments in psychiatric in-patients. *British Journal of Psychiatry*, 187, 372–378.
- Council of Europe (2004). *Recommendations of the Council of Ministers concerning the protection of the human rights and dignity of persons with mental disorder*. Rec (2004)10.
- Dawson, J., & Szmukler, G. (2006). Fusion of mental health and incapacity legislation. *British Journal of Psychiatry*, 188, 504–509.
- Grisso, T. (2003). *Evaluating competencies: Forensic assessments and instruments*, Second Edition New York: Kluwer Academic/Plenum Publishers.
- Grisso, T., & Appelbaum, P. S. (1995). Comparison of standards for assessing patients' capacities to make treatment decisions. *American Journal of Psychiatry*, 152, 1033–1037.
- Grisso, T., Appelbaum, P. S., & Hill-Fotouhi, C. (1997). The MacCAT-T: A clinical tool to assess patients' capacities to make treatment decisions. *Psychiatric Services*, 4, 1415–1419.
- Hoge, S. K., Bonnie, R. J., Poythress, N., Monahan, J., Eisenberg, M., & Fecht-Havier, T. (1997). The MacArthur adjudicative competence study: Development and validation of a research instrument. *Law and Human Behaviour*, 21, 141–179.
- Irish Pharmaceutical Healthcare Association (2001). *Data sheet and summary of product characteristics compendium 2001-2002*. Dublin: IPHA.
- Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia Bulletin*, 13, 261–276.
- Lambe, N., et al. (1995). Assessment of mental capacity: Guidance for doctors and lawyers. *A report of the British Medical Society and the Law Society* London: BMA.
- Law Commission (1995). *“Mental Incapacity” Law Com*, vol. 231. (pp. 33) London: HMSO.
- Law Reform Commission (2003). *Consultation Paper on Law and the Elderly. (LRC CP 23-2003)*. Dublin: The Law Reform Commission.
- O'Neill, C., Sinclair, H., Kelly, H., & Kennedy, H. G. (2002). Interaction of forensic and general psychiatric services: Learning the lessons or repeating the mistakes? *Irish Journal of Psychological Medicine*, 19(2), 48–54.

- O'Neill, C., Heffernan, P., Goggins, R., Corcoran, C., Linehan, S., Duffy, D., et al. (2003). Long-stay forensic psychiatric patients in the Republic of Ireland: Aggregated needs assessment. *Irish Journal of Psychological Medicine*, 20(4), 114–125.
- Roth, L., Meisel, A., & Lidz, C. (1977). Tests of competency to consent to treatment. *American Journal of Psychiatry*, 134, 279–284.
- Szmukler, G., & Holloway, F. (1998). Mental Health Legislation is now a harmful anachronism. *Psychiatric Bulletin*, 22, 662–665.
- World Health Organization (1993). *The ICD–10 classification of mental and behavioural disorders: Diagnostic criteria for research*. Geneva: WHO.

### **Cases Cited**

- Godinez v. Moran (92–725), 509 U.S. 389 (1993).