



Age, psychiatry admission status and linear mental capacity for treatment decisions



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ABSTRACT

The relationship between age and mental capacity among psychiatry inpatients is not fully understood. We aimed to assess mental capacity for treatment decisions in voluntary and involuntary psychiatry inpatients in Ireland and, in this analysis of our data-set, to elucidate the linear relationship, if any, between linear (as opposed to categorical) mental capacity and age. We used the MacArthur Competence Assessment Tool for Treatment (MacCAT-T) to assess mental capacity for treatment decisions in 215 psychiatry inpatients (176 voluntary and 39 involuntary) in four psychiatry admission units in Ireland. Mean age was 46.2 years and majorities were male (58.1%), never married (74.0%), unemployed (64.2%) and of Irish ethnicity (87.0%). The most common primary diagnoses were schizophrenia and related disorders (42.8%) followed by affective disorders (36.7%). On multi-variable linear regression analysis, linear mental capacity was significantly associated with voluntary admission status, being employed, having a primary diagnosis other than schizophrenia or a related disorder, and younger age. Together, these factors accounted for 44.4% of the variance in mental capacity between participants. Overall, while increased age is associated with diminished mental capacity, other factors appear more significant, including involuntary admission status which is likely an indicator of symptom severity. There is a need for further research to (a) elucidate the relationships between the significant factors identified in this study and the cognitive status of patients (which impacts on assessments of mental capacity); (b) identify and elucidate other factors of likely relevance to mental capacity (e.g. medical illness, medication use); and (c) translate these findings into targeted interventions to support decision-making in clinical practice among psychiatry inpatients, especially those with involuntary status.

1. Introduction

Decision-making capacity is a legal concept with a direct role in clinical practice (Duffy & Kelly, 2017; Kelly, 2015; Larkin & Hutton, 2017). Estimates of the rate of mental incapacity for treatment decisions among psychiatry inpatients vary considerably between studies. One systematic review found the median proportion of psychiatry inpatients who lack mental capacity is 29% (Okai et al., 2007) while another found that 45% lack mental capacity (Lepping, Stanly, & Turner, 2015). Some studies show an association between increasing age and mental incapacity in psychiatry inpatients (Appelbaum, Appelbaum, & Grisso, 1998; Norko, Billick, McCarrick, & Schwartz, 1990; Roth et al., 1982), while others show no association (Cairns et al., 2005; Melamed, Kimchi, Shnit, Moldavski, & Elizur, 1997; Spencer, Gergel, Hotopf, & Owen, 2018). We know that increasing age correlates with mental incapacity in medical and surgical inpatients (Murphy,

Fleming, Curley, Duffy & Kelly, 2018) but the relationship, if any, between mental incapacity and age in psychiatry inpatients is unclear and requires further study.

In Ireland, as in many other jurisdictions (e.g. England), lack of mental capacity does not form an explicit part of the legal criteria for involuntary psychiatric admission (Kelly, 2016). Ireland's Mental Health Act 2001 permits involuntary admission when a person has a "mental disorder", which means "mental illness, severe dementia or significant intellectual disability where (a) because of the illness, disability or dementia, there is a serious likelihood of the person concerned causing immediate and serious harm to himself or herself or to other persons, or (b) (i) because of the severity of the illness, disability or dementia, the judgment of the person concerned is so impaired that failure to admit the person to an approved centre [i.e. psychiatry inpatient unit] would be likely to lead to a serious deterioration in his or her condition or would prevent the administration of appropriate

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treatment that could be given only by such admission, and (ii) the reception, detention and treatment of the person concerned in an approved centre would be likely to benefit or alleviate the condition of that person to a material extent” (Section 3(1)).

The legislation also defines mental illness, severe dementia and significant intellectual disability (Section 3(2)). Mental illness is “a state of mind of a person which affects the person's thinking, perceiving, emotion or judgment and which seriously impairs the mental function of the person to the extent that he or she requires care or medical treatment in his or her own interest or in the interest of other persons”. Severe dementia is “a deterioration of the brain of a person which significantly impairs the intellectual function of the person thereby affecting thought, comprehension and memory and which includes severe psychiatric or behavioral symptoms such as physical aggression”. Significant intellectual disability is “a state of arrested or incomplete development of mind of a person which includes significant impairment of intelligence and social functioning and abnormally aggressive or seriously irresponsible conduct on the part of the person”.

In 2017, there was a total of 16,743 admissions to Irish psychiatry inpatient units and hospitals (a rate of 351.6 per 100,000 population), of which 13% were involuntary admissions under the 2001 Act (Daly & Craig, 2018). This yields an involuntary admission rate of 45.4 per 100,000 population, which is less than half the rate in England but still represents a significant number of patients each year (Gilhooley & Kelly, 2018).

Ireland's criteria for involuntary admission do not, however, explicitly require a lack of mental capacity and therefore a person with full mental capacity can be an involuntary patient in Ireland. The aim of the present analysis of our dataset (Curley, Murphy, Plunkett, & Kelly, 2019a) was to assess linear (as opposed to categorical) mental capacity (Curley, Murphy, Plunkett, & Kelly, 2019b) in voluntary and involuntary psychiatry inpatients in Ireland and elucidate the linear relationship, if any, between linear mental capacity and age.

2. Material and methods

2.1. Setting

This cross-sectional, observational study was based in four psychiatry inpatient units in the eastern part of Ireland: the Acute Psychiatry Unit in Tallaght University Hospital, Dublin; the Drogheda Department of Psychiatry, Crosslanes, Drogheda, County Louth; St Brigid's Hospital, Ardee, County Louth; and the Department of Psychiatry, Connolly Hospital, Blanchardstown, Dublin. All of these units provide inpatient mental health care for public (i.e. non-fee-paying) adult patients and are operated by the Health Service Executive (HSE), Ireland's governmental provider of public mental health care (i.e. free at point-of-use).

Tallaght University Hospital is one of Ireland's largest acute teaching hospitals, located in suburban Dublin, and is one of the two main teaching hospitals of Trinity College Dublin. The Acute Psychiatry Unit comprises 52 beds and associated facilities, and provides inpatient mental health care to adults aged 18 years or over as both voluntary and involuntary patients under the Mental Health Act 2001. At the time of its inspection by the Inspector of Mental Health Services in 2017, this unit had 51 inpatients of whom 9 were involuntary (Inspector of Mental Health Services, 2017a).

The Drogheda Department of Psychiatry serves the more rural catchment area of counties Louth and Meath. It comprises 46 beds and associated facilities and provides inpatient mental health care to adults aged 18 years or over as both voluntary and involuntary patients under the Mental Health Act 2001. At the time of its inspection in 2017, this unit had 44 inpatients of whom 10 were involuntary (Inspector of Mental Health Services, 2017b).

St Brigid's Hospital in Ardee, County Louth is a dedicated, standalone psychiatry hospital currently comprising 20 beds and associated

facilities. It provides medium- to long-term care to adults aged 18 years or over as both voluntary and involuntary patients under the Mental Health Act 2001. At the time of its inspection in 2017, this unit had 16 inpatients, all of whom were over six months in the hospital and all but one of whom were aged over 65 years (Inspector of Mental Health Services, 2017c). All were voluntary.

Connolly Hospital Blanchardstown is a university teaching hospital for the Royal College of Surgeons in Ireland (RCSI) which provides acute medical and surgical services to north-west Dublin and surrounding areas of north Kildare and south county Meath. The Department of Psychiatry, Connolly Hospital comprises 47 beds and associated facilities. It provides inpatient mental health care to adults aged 18 years or over as both voluntary and involuntary patients under the Mental Health Act 2001. At the time of its inspection in 2017, this unit had 38 inpatients of whom 6 were involuntary (Inspector of Mental Health Services, 2017d).

2.2. Participants and recruitment

We recruited patients at all four psychiatry inpatient units from 31 July 2017 to 5 October 2018 (inclusive). For consideration for inclusion in the study, a patient had to be an inpatient in one of the four inpatient psychiatry units during the study period; aged 18 years or over; and proficient in the English language. We identified patients from inpatient census lists and recruited patients randomly from each unit over the study period. We included both voluntary and involuntary patients under Ireland's Mental Health Act 2001.

This study did not compare outcomes across groups so, in place of a statistical power calculation, we selected a sample size of approximately 200 participants so that our study would be comparable with, or larger than, other key studies in the field (Cairns et al., 2005; Owen et al., 2009; Mandarelli et al., 2014, 2018). Approximately 200 participants was also a pragmatically achievable sample size in the study setting, proportionately and pragmatically divided between the participating psychiatry units.

2.3. Data collection

For each participant, we recorded their gender, age, marital status, employment status, ethnicity, admission status at time of assessment (voluntary or involuntary) and clinical diagnosis derived from each participant's case-file and coded using the World Health Organisation's (WHO) *International Classification of Mental and Behavioral Disorders (ICD-10)* (World Health Organization, 1992).

The key outcome variable of interest was mental capacity assessed using the MacArthur Competence Assessment Tool for Treatment (MacCAT-T) (Grisso, Applebaum, & Hill-Fotouhi, 1997; Grisso & Applebaum, 1998; Murphy et al., 2018). The MacCAT-T is a semi-structured interview that yields scores on four scales (with higher scores indicating greater mental capacity): (1) understanding of the disorder and its treatment, including associated benefits and risks (rated from 0 to 6, comprising three sub-scales, each rated from 0 to 2: understanding of the disorder, treatment and benefits/risks); (2) appreciation of the disorder and its treatment; i.e. how the patient understands how they could be specifically affected, which usually entails some level of insight (rated from 0 to 4, comprising two sub-scales, each rated from 0 to 2: appreciation of the disorder and appreciation of treatment); (3) reasoning, which assesses the processes behind the decision and ability to compare alternatives in view of their consequences (rated from 0 to 8, comprising four sub-scales, each rated from 0 to 2: consequential reasoning, comparative reasoning, generating consequences and logical consistency); and (4) the ability to express a choice (rated from 0 to 2).

The MacCAT-T measures these elements of mental capacity on continuous scales with a high degree of inter-rater reliability (ranging between 0.99 for 'understanding' and 0.87 for 'appreciation') (Grisso et al., 1997; Sturman, 2005). Added together, these scores yield an

overall MacCAT-T score ranging from 0 to 20, with a higher score broadly indicating greater mental capacity (although someone with a high total score can lack *categorical* mental capacity if they score poorly on a single subscale).

In our study, all ratings were performed by a trained clinician with more than five years training in psychiatry and membership of the Royal College of Psychiatrists (AC), consistent with established methodology (Owen et al., 2013) and with appropriate ongoing supervision by another trained assessor (BDK). For additional quality control, there were joint assessments of certain patients with another trained clinician with more than five years training in psychiatry and membership of the Royal College of Psychiatrists (RM), also under supervision (BDK).

2.4. Consent

For the purposes of the present study, it was imperative that all patients eligible to participate were approached and invited to participate regardless of level of mental capacity, in order to gain a complete picture of the prevalence of mental incapacity and avoid selection bias. As a result, we developed a detailed, multi-step consent procedure as follows:

- Any patient (with or without mental capacity) who indicated in any way that he or she did not wish to participate was excluded from the study immediately.
- We obtained written informed consent from patients with mental capacity to provide such consent. There is a legal presumption of mental capacity in Ireland so it was only in cases where we had *prima facie* reason to believe that the patient lacked mental capacity to consent to the study that we could question the presumption of mental capacity to participate.
- For patients who lacked mental capacity to consent to the study, we developed a next-of-kin/relative information leaflet and assent form, and we obtained assent in this fashion from their next-of-kin or relative when feasible; i.e. when a next-of-kin or relative was named and available. On receiving such assent, we proceeded with our assessments provided the patient assented and did not object at any point. In these cases, we sought “deferred consent” if the patient regained mental capacity during the study period. If, on regaining mental capacity, any patient had declined to provide such “deferred consent”, we would have destroyed the data relating to that patient, but this situation did not arise in the study.
- For patients who lacked mental capacity to consent to the study and there was no next-of-kin or relative named or available, we were to proceed with our assessments provided the patient assented and did not object at any point. In these cases, we were to seek “deferred consent” if the patient regained mental capacity during the study period. If, on regaining mental capacity, any patient had declined to provide such “deferred consent”, we would have destroyed the data relating to that patient, but this situation did not arise in the study.

2.5. Ethics

This study was approved by the Tallaght University Hospital/St James's Hospital Joint Research Ethics Committee, Dublin, Ireland, the HSE North East Area Research Ethics Committee, Bective Street, Kells, County Meath, and the RCSI Research Ethics Committee, 121 St Stephen's Green, Dublin 2. This study was performed in accordance with the Declaration of Helsinki (World Medical Association, 2008) and Data Protection Guidelines on Research in the Health Sector (Data Protection Commissioner, 2007). This was a study of usual practice using existing routine data and administration of an interview to evaluate current mental health care practice. Data were irrevocably anonymized, encrypted and stored on a password-protected research computer in a locked research office. Data protection legislation was adhered to and patient confidentiality protected at all times.

2.6. Statistics

Data were stored, described and analysed using IBM SPSS Statistics 23. For bi-variable analysis, we used the Student *t*-test, Chi Square test, Mann-Whitney *U* test and Kruskal-Wallis test, as appropriate. For multi-variable analysis, we generated a linear regression model with MacCAT-T score (out of 20) as the dependent variable. Independent variables were gender, age, marital status, employment status, ethnicity, admission status at time of assessment (voluntary or involuntary), clinical diagnosis (classified according to *ICD-10*) and psychiatry unit in which the person was admitted (Tallaght Acute Psychiatry Unit, Drogheda Department of Psychiatry, St Brigid's Hospital (Ardee) and Blanchardstown Department of Psychiatry).

We tested for multicollinearity, which is when two or more variables are so closely related to each other that the model cannot reliably distinguish the independent effects of each. For this, we calculated a “tolerance value” for each independent variable; tolerance values below 0.25 indicate possible multicollinearity, and tolerance values below 0.10 indicate significant problems with multicollinearity (Katz, 1999). There were no missing data.

3. Results

3.1. Sample characteristics

Two-hundred and fifteen patients participated across the four psychiatry inpatients units studied: 62 patients in the Tallaght Acute Psychiatry Unit (28.8%); 59 in Drogheda Department of Psychiatry (27.4%); 13 in St Brigid's Hospital, Ardee (6.0%); and 81 in Blanchardstown Department of Psychiatry (37.7%).

A small majority of participants (58.1%; $n = 125$) were male. Mean age was 46.2 years (standard deviation [SD]: 17.2). Almost three quarters of participants (74.0%; $n = 159$) were never married; 14.4% ($n = 31$) were married; 7.0% ($n = 15$) separated or divorced; and 4.7% ($n = 10$) widowed. Majorities were unemployed (64.2%; $n = 138$) and of Irish ethnicity (87.0%; $n = 187$). The most common primary diagnoses were schizophrenia and related disorders (42.8%; $n = 92$) followed by affective disorders (36.7%; $n = 79$), psychoactive substance misuse disorders (including alcohol) (7.9%; $n = 17$), neurotic disorders (7.0%; $n = 15$), personality disorders (3.3%; $n = 7$) and others (2.3%, $n = 5$).

A majority of inpatients were voluntary patients at the time of the study (81.9%; $n = 176$). Voluntary and involuntary patients did not differ in terms of age (mean: 46.9 years, SD 17.1, and 43.0, SD 17.1, respectively; $t = 1.291$, $p = .202$), gender, marital status, employment status or psychiatry inpatient unit in which they were admitted, but involuntary patients were more likely to be non-Irish and have a primary diagnosis of schizophrenia or a related disorder (Table 1).

The distribution of total MacCAT-T scores for mental capacity for treatment decisions was skewed to the left, with a median value of 17.6 (inter-quartile range [IQR]: 7.65–19.5, with a higher score broadly indicating greater mental capacity, although someone with a high total score can lack *categorical* mental capacity if they score poorly on a single subscale).

3.2. Clinical and demographic correlates of mental capacity for treatment decisions

On bi-variable testing, mental capacity was inversely correlated with age (Spearman's $r = -0.192$, $p = .005$) and significantly associated with being employed, voluntary admission status and having a primary diagnosis other than schizophrenia or a related disorder (Table 2). On multi-variable linear regression analysis, mental capacity was significantly associated with, in order of strength of association, voluntary admission status, being employed, having a primary diagnosis other than schizophrenia or a related disorder, and younger age

Table 1
 Characteristics of voluntary and involuntary psychiatry inpatients included in the study in four adult psychiatry inpatient units in Ireland.

Variable		Voluntary inpatients n = 176 n (%)	Involuntary inpatients n = 39 n (%)	Statistic	
				Chi Square	p
Gender	Male	102 (58.0)	23 (59.0)	0.014	0.907
	Female	74 (42.0)	16 (41.0)		
Marital status	Never married	129 (73.3)	30 (76.9)	2.918	0.404
	Married	24 (13.6)	7 (17.9)		
	Separated or divorced	13 (7.4)	2 (5.1)		
	Widowed	10 (5.7)	0 (0)		
Employment status	Unemployed	110 (62.5)	28 (71.8)	1.200	0.273
	Employed	66 (37.5)	11 (28.2)		
Ethnicity	Irish	158 (89.8)	29 (74.4)	6.696	0.010
	Non-Irish	18 (10.2)	10 (25.6)		
Primary diagnosis	Schizophrenia and related disorders	66 (37.5)	26 (66.7)	13.741	0.017
	Affective disorders	68 (38.6)	11 (28.2)		
	Psychoactive substance misuse disorders	15 (8.5)	2 (5.1)		
	Neurotic disorders	15 (8.5)	0 (0)		
	Personality disorders	7 (4.0)	0 (0)		
	Other disorders	5 (2.8)	0 (0)		
Psychiatry unit in which the person was admitted	Tallaght Acute Psychiatry Unit	48 (27.3)	14 (35.9)	4.135	0.247
	Drogheda Department of Psychiatry	47 (26.7)	12 (30.8)		
	St Brigid's Hospital, Ardee	13 (7.4)	0 (0)		
	Blanchardstown Department of Psychiatry	68 (38.6)	13 (33.3)		

(Table 3). This model was statistically significant ($p < .001$) and accounted for 44.4% of the variance in mental capacity between participants. All tolerance values were > 0.25 indicating no problems with multicollinearity.

4. Discussion

4.1. Mental incapacity for treatment decisions

We found that linear mental capacity for treatment decisions in psychiatry inpatients is significantly associated with voluntary admission status, being employed, having a primary diagnosis other than

schizophrenia or a related disorder, and younger age. Together, these factors account for almost half (44.4%) of the variance in mental capacity between psychiatry inpatients.

4.2. Comparison with the broader literature

The broader literature on age and mental capacity in psychiatry inpatients is decidedly mixed, with some, chiefly older, studies showing an association between increasing age and mental incapacity (Appelbaum et al., 1998; Noriko et al., 1990; Roth et al., 1982) and others showing no association (Cairns et al., 2005; Melamed et al., 1997; Spencer et al., 2018). The association that we found between

Table 2

Bi-variable analysis of demographic and clinical correlates of mental capacity for treatment decisions among voluntary and involuntary patients in four adult psychiatry inpatient units in Ireland.

Variable		Median mental capacity score (inter-quartile range)	Statistic	
			Test statistic	p
Gender	Male	17.00 (7.5250–19.30)	Mann-Whitney U: 5019.0	0.177
	Female	18.45 (7.9625–19.50)		
Marital status	Never married	17.50 (7.40–19.5)	Kruskal-Wallis: 0.221	0.974
	Married	17.25 (7.55–19.5)		
	Separated or divorced	18.2 (14.5–19.1)		
	Widowed	17.5 (5.8125–19.1250)		
Employment status	Unemployed	16.3 (6.3250–19.0)	Mann-Whitney U: 6920.0	< 0.001
	Employed	19.0 (15.750–19.50)		
Ethnicity	Irish	18.0 (8.10–19.50)	Mann-Whitney U: 2190.50	0.163
	Non-Irish	14.3250 (6.3875–19.0650)		
Admission status	Voluntary	18.6750 (14.5125–19.50)	Mann-Whitney U: 854.0	< 0.001
	Involuntary	6.0 (4.50–8.80)		
Primary diagnosis	Schizophrenia and related disorders	9.00 (5.50–17.575)	Kruskal-Wallis: 43.884	< 0.001
	Affective disorders	19.0 (16.50–19.50)		
	Psychoactive substance misuse disorders	19.0 (17.850–19.50)		
	Neurotic disorders	19.50 (17.30–19.50)		
	Personality disorders	19.50 (19.0–20.0)		
	Other disorders	16.10 (8.0–18.80)		
Psychiatry unit in which the person was admitted	Tallaght Acute Psychiatry Unit	16.25 (2.4375–19.50)	Kruskal-Wallis: 7.90	0.048
	Drogheda Department of Psychiatry	18.30 (6.0–19.30)		
	St Brigid's Hospital, Ardee	9.550 (2.6250–17.50)		
	Blanchardstown Department of Psychiatry	18.60 (9.4250–19.50)		

Note: Mental capacity for treatment decisions was assessed using the MacArthur Competence Assessment Tool for Treatment (MacCAT-T) (see text for details).

Table 3

Linear regression analysis of demographic and clinical correlates of mental capacity for treatment decisions among voluntary and involuntary patients in four adult psychiatry inpatient units in Ireland.

Independent variables	β	Standard error	p	Tolerance value ^a
Gender	-1.238	0.680	0.070	0.959
Age	-0.105	0.023	< 0.001	0.692
Marital status	0.505	0.480	0.294	0.707
Employment status	2.542	0.737	0.001	0.866
Ethnicity	-1.867	1.116	0.096	0.765
Admission status at time of assessment	-8.067	0.897	< 0.001	0.903
Primary diagnosis	0.812	0.292	0.006	0.872
Psychiatry unit in which the person was admitted	0.222	0.216	0.304	0.870

Note: This table presents a linear regression analysis of mental capacity for treatment decisions, with the MacArthur Competence Assessment Tool for Treatment (MacCAT-T) score as the dependent variable; $r^2 = 44.4\%$; $p < .001$.

^a All tolerance values were > 0.25 indicating no problems with multicollinearity (Katz, 1999).

increasing age and mental incapacity was statically significant but relatively small in magnitude (Spearman's $r = -0.192$, $p = .005$ on bi-variable testing; $\beta = -0.105$, $p < .001$ on multi-variable testing).

All three other factors associated with diminished mental capacity in our study had greater effect sizes: involuntary admission status, being unemployed, and having a primary diagnosis of schizophrenia or a related disorder (Table 3). The association between involuntary status and diminished mental capacity that we found is interesting in light of the fact that mental incapacity is not an explicit criterion for involuntary admission in Ireland (or many other countries, such as England). It is, however, likely that involuntary as opposed to voluntary admission status is associated with a greater level of symptoms or diminished insight, and these or similar factors likely mediate the relationship between involuntary admission status and diminished mental capacity identified in this study.

The association we identified between unemployment and diminished mental capacity might be mediated by educational status, but the overall literature on this relationship is very inconsistent and further study is required to clarify the roles of education and socio-economic variables in relation to mental capacity in this population (Okai et al., 2007). There is more consistent evidence linking a diagnosis of psychotic illness with impaired decision-making capacity in relation to treatment, although not necessarily in relation to research (Spencer et al., 2018). We too found that having a primary diagnosis of schizophrenia or a related disorder was significantly associated with diminished mental capacity for treatment decisions, but the effect of diagnosis was not as strong as the effect of admission status or employment (although it was independent of them).

4.3. Strengths and limitations of the present study

Our study has several strengths. We included both voluntary and involuntary patients and our study (Curley et al., 2019a, 2019b) is comparable in size with leading studies in the field (Cairns et al., 2005; Owen et al., 2009; Mandarelli et al., 2014, 2018). We also addressed an important and under-studied topic, mental capacity among psychiatry inpatients, despite the ethical challenges inherent in conducting research among patients who might lack mental capacity for both research and treatment decisions, and some of whom are involuntary patients under mental health legislation. To address these issues, we developed our detailed consent procedure and our work was approved by three research ethics committees before commencement.

Weaknesses include the fact that our analysis was a cross-sectional one and did not take account of changes in mental capacity over the course of each patient's admission. In clinical practice, many treatment decisions are deferred if a person has temporary mental incapacity and are made later, after the person has regained mental capacity or has accessed decision-making support services (e.g. advocates). Our study,

however, looked at mental capacity at a single point in time, which provides an informative *cross-sectional* assessment of mental incapacity but could be usefully augmented by longitudinal assessments in future work.

We only recorded one diagnosis per patient (their primary diagnosis) when some patients might have had two significant diagnoses (e.g. schizophrenia and a comorbid psychoactive substance misuse disorder). In addition, it is important to note that cognitive performance is central to the MacCat-T assessment of mental capacity (Breden & Vollmann, 2004; Mandarelli et al., 2012) and we did not assess cognition in the present study (see recommendations for future research, below).

We sought to minimise selection bias by including both voluntary and involuntary patients, studying four psychiatry inpatient units (although all were in the east of Ireland), and developing an inclusive consent procedure (to minimise selection bias). The use of a single rater for all assessments might have introduced assessment bias but we provided careful training, supervision, and joint assessments of certain patients with another trained clinician, also under supervision, in order to minimise bias.

5. Conclusions

From a clinical perspective, our findings indicate a need to target interventions to support decision-making towards those psychiatry inpatients most in need of such support, which include involuntary inpatients, the unemployed, those with schizophrenia or a related disorder, and, to a lesser extent, older adults. Our findings also suggest that future research could usefully elucidate further the relationships between the significant factors identified in this study and the cognitive status of patients, which impacts significantly on both mental capacity and its assessment. There is also a need to identify and elucidate other factors of likely relevance to mental capacity other than those we studied, including level of education, co-morbid medical illness, use of medication, and overall symptom burden.

Animal and human rights

This study was performed in accordance with the Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans. This study, including the procedure for obtaining informed consent from participants (outlined in the text), was approved by the Tallaght University Hospital/St James's Hospital Joint Research Ethics Committee, Dublin, Ireland, the HSE North East Area Research Ethics Committee, Bective Street, Kells, County Meath, and the Royal College of Surgeons in Ireland (RCSI) Research Ethics Committee, 121 St Stephen's Green, Dublin 2.

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Declaration of Competing Interest

None.

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