

Demographic, Criminogenic, and Psychiatric Factors That Predict Competency Restoration

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Previous research has investigated the characteristics of competent and incompetent defendants and restorable and nonrestorable defendants. However, less is known about the influence of current treatment variables and other systemic factors on restorability. In the present study, we sought to examine the impact of demographic, criminogenic, historical clinical, and current treatment variables on the restorability and length of stay (LOS) of incompetent defendants. We reviewed the records of 71 male patients who had been court ordered for competency restoration and subsequently discharged from a maximum-security forensic hospital. Results indicated that nonrestorable patients had more prior hospitalizations, incarcerations, and episodes of incompetence, had lower level charges, were diagnosed with a psychotic and cognitive disorder, were prescribed more medications, and had lower global assessment of functioning (GAF) scores. Nonrestorable patients were hospitalized nearly twice as long as those eventually found competent, and patients with lower IQs and lower GAFs and who spent more days on special observations had longer LOS.

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Recent estimates suggest that approximately 60,000 criminal defendants undergo examinations for competency to stand trial every year. Although rates vary widely across jurisdictions, about 25 to 30 percent are deemed incompetent to proceed and are court ordered to a psychiatric hospital for restoration (see Ref. 1 for a review, and Ref. 2 for a recent meta-analysis). Incompetent defendants represent the largest group of inpatients committed to psychiatric hospitals via the legal system,³ occupying roughly 4,000 (one-ninth of all) state psychiatric hospital beds in the United States on any given day.⁴

Competent Versus Incompetent Defendants

A great deal of research has been conducted over the years to investigate the characteristics of competent versus incompetent defendants, with mixed findings. Early research suggested that demographic variables are important predictors of competency status. Steadman⁵ examined a sample of 539 male defendants and found that those who were unmarried, were less educated, and had fewer job skills and community ties were more likely to be found incompetent. Several years later, Reich and Wells⁶ found that African-American, unmarried, less-educated individuals were more likely to be found incompetent. Later research suggested that clinical variables such as diagnosis were better predictors of competency status than were demographic or criminogenic variables. For instance, Warren and colleagues⁷ found that diagnoses of schizophrenia, mental retardation, mood disorder, and organic brain disorder were related to findings of incompetency. Similarly, Hart and Hare⁸ found that any major Axis I diagnosis but particularly schizophrenia related to findings of in-

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competency; age, race, marital status, education, and socioeconomic status bore no relation to competency status. Other studies have suggested that demographic variables are just as important as clinical variables in predicting competency.⁹

Nicholson and Kugler¹⁰ reviewed 30 studies examining competent versus incompetent defendants conducted over more than 20 years. They found that older, female, minority defendants were more likely to be found incompetent (although the effect size was small); lack of a prior legal history related to incompetency, but current offense type bore no relation; prior psychiatric history, a psychosis diagnosis, and more severe symptoms related to incompetency but mental retardation did not; and poor performance on assessments of specific psycholegal abilities predicted incompetency. Notably, one of every two defendants with a psychosis diagnosis was found incompetent, compared with one of every 10 of their nonpsychotic counterparts. More recently, Hubbard *et al.*¹¹ examined the competency reports of 468 defendants referred for competency evaluations to identify the predictors of competency versus incompetency. They found that African-American, male, unmarried, unemployed, disabled defendants with property and other miscellaneous (i.e., nonviolent) offenses were more likely to be found incompetent. Psychosis and other major disorders were associated with an increased likelihood of incompetency. A recent meta-analysis comparing competent and incompetent defendants revealed that the strongest predictors of incompetency were psychosis diagnosis, a history of psychiatric hospitalizations, unemployment, and non-Caucasian ethnicity, whereas current violent charges predicted competency.² In sum, although the research has produced mixed findings with respect to some variables, the prototypical incompetent defendant may be described as someone with a history of psychiatric symptoms, particularly severe psychosis, poor functional abilities and community resources, and poor psycholegal abilities.

Restorable Versus Nonrestorable Defendants

The United States Supreme Court in *Jackson v. Indiana*¹² held that hospitals could not hold a pretrial defendant indefinitely solely for competency restoration. Thus, evaluators are expected to make a prediction of the potential restorability for any defendant deemed incompetent to stand trial. For

years, researchers have attempted to investigate evaluators' ability to predict restorability. The overwhelming results have been that it is extremely difficult to predict with high accuracy which defendants will be restored and which ones will not. Carbonell *et al.*¹³ for instance, examined predictions of restorability in 152 incompetent defendants hospitalized for competency restoration over a three-year period and found that demographic and clinical variables were poor predictors of restorability, with 72.2 percent accuracy, dropping to 59.9 percent on cross-validation. Golding,¹⁴ on the basis of his review, indicated that poor premorbid functioning, negative symptoms, an insidious onset, prior psychiatric history, and a history of positive treatment response were the best predictors of restorability. Most recently, Mossman¹⁵ reviewed the records of 351 pretrial defendants hospitalized for competency restoration over a four-year period. He found that older defendants with misdemeanor charges who had longer cumulative lengths of stay (LOS) and diagnoses of mental retardation, schizophrenia, or schizoaffective disorder were less likely to be restored to competency. The difficulty in predicting nonrestorability with any degree of success most likely relates to the fact that this is a very low-base-rate phenomenon, with rates ranging from 5.3 to 25.5 percent, with an average of approximately 10 percent.^{16–20}

Competency Restoration

Most of the research to date has focused on the characteristics of those referred for evaluation at the outset and is based on static variables such as demographics, criminal history variables, and clinical diagnoses. There has been little research on variables in the course of treatment that affect the ultimate outcomes of individuals court ordered for restoration, despite calls for such research dating back to the 1980s.¹⁶ Rodenhauser and Khamis,²¹ for example, examined restorability and length of hospitalization in a sample of 376 patients in a maximum-security forensic hospital court ordered for competency restoration over a four-year period. They found that the average LOS was just over 153 days. Patients with a diagnosis of schizophrenia, no personality disorder, and felony charges and who initially refused medication, received medication involuntarily, and required physical restraint during hospitalization had longer LOS. Nicholson and McNulty²⁰ similarly investigated the outcomes and

LOS for a sample of 493 patients committed to a state forensic hospital for competency restoration. Results indicated that 95 percent of the sample was restored to competency after an average LOS of 68 days; less than 6 percent of the sample was hospitalized more than six months. They observed clinically significant improvement in functioning (i.e., global assessment of functioning [GAF]) from admission to discharge but noted the limited predictability of LOS, due to the rarity of persistent incompetence. The single best predictor of competency was the severity of a defendant's impairment at admission, but this was unrelated to LOS. A later study by Nicholson and colleagues¹⁹ revealed that 89.5 percent of patients were restored to competency, but after an average length of stay of 283 days. They observed that measures of psychopathology and psycholegal ability but not demographic variables were related to outcome.

The Present Study

Those studies provide some insight into the course of treatment, outcomes, and restorability of defendants deemed incompetent to stand trial. However, given the wide variability in duration of hospitalization seen in many studies, it remains unclear what role factors such as treatment refusal (versus participation), involuntary medication, behavioral management problems, and other systemic factors play in determining the outcome of restoration efforts. The present study sought to explore the demographic, criminogenic, historical clinical, and treatment-specific variables that predict length of hospitalization as well as an ultimate finding of nonrestorability.

Determining competency is based on current capacities and underlying abilities; thus, it is strongly influenced by one's current mental state and clinical stability. It also is influenced to some extent by the nature and complexity of one's legal situation and one's history of experience with the criminal justice system. It should not be influenced by the demographic characteristics of the defendant, as it would suggest bias in the application of law. It was expected that historical clinical and current treatment-specific variables would evidence the strongest relationship (largest correlation) with outcome measures, that criminogenic variables would evidence a weaker but moderate relationship (moderate correlation) and that demographic variables would evidence little to no relationship (low, nonsignificant correlation). A

corollary hypothesis was that, when entered into regression equations, demographic factors would not predict these criterion variables, criminogenic variables would result in significant predictability, and clinical variables would add even more to the predictability. The goals of the present study were to investigate what factors predict competency restoration but in particular what role factors such as treatment refusal (versus participation), involuntary medication, and behavioral management problems played in determining the outcome of restoration efforts.

Method

Participants

Participants were 71 male patients discharged from a maximum-security forensic hospital who had been court-ordered for restoration of competency to stand trial.

Procedure

Approval to conduct this study was granted through an expedited review by Connecticut's Department of Mental Health and Addictions Services Institutional Review Board. Records of discharged patients were reviewed and coded by the researchers for the predictor and outcome variables. Sources of information included admission and discharge assessments, all competency evaluations submitted to the court and the legal and mental health records obtained during the course of hospitalization. Variables regarding aspects of treatment during the current hospitalization were coded from the physicians' orders, progress notes, treatment plans, and the competency evaluations submitted to the court.

All data were extracted from the patients' medical records by the researchers and coded in anonymous form onto separate data sheets. Each patient was assigned an identification code to identify his data in the computer database; no names were attached to the data. Data were entered into an electronic database for statistical analysis.

Independent (Predictor) Variables

Independent (predictor) variables gathered in this study fell into four separate classes: demographic, criminogenic, historical clinical, and current treatment. Demographic variables included: age at discharge, race (dummy coded as minority/nonminority), and education (ranked ordinally from less than high school education to postcollege education).

Criminogenic variables included: number of prior uninterrupted episodes of incarceration, controlling offense class (ranked ordinally from Class C misdemeanor to Class A felony), and maximum exposure (the maximum number of years a defendant could serve in prison if convicted on all charges) in years. Historical clinical variables included: number of prior inpatient hospitalizations, number of prior findings of incompetence, and IQ class (ranked ordinally from extremely low (<70) to very superior (130+)). Current treatment variables included: number of days until medications were taken, group attendance, group participation, and number of episodes of seclusion/restraint. Attendance was coded on a four-point Likert-type scale as follows: 1, refused all/most competency-related groups (attended <20%); 2, attended competency-related groups sporadically (20%–50%); 3, attended competency-related groups regularly (50%–80%); and 4, attended all/nearly all competency-related groups (>80%). Participation also related to competency-related groups was coded on a four-point Likert-type scale as follows: 1, disruptive on >1 occasion; 2, participated never/almost never; 3, participated minimally/only with prompting; and 4, participated consistently/no need for prompting.

Dependent (Criterion) Variables

Dependent (criterion) variables measured were the court's ultimate decision regarding competency (competent versus nonrestorable) for the logistic regression and the length of a defendant's hospitalization for restoration (in days) for the multiple regression.

Results

Sample Characteristics

The sample had an average age of 37.9 years (SD 11.0). The sample was mostly African American ($n = 34$; 47.9%) or Caucasian ($n = 28$; 39.4%), but also included three (4.2%) Hispanics/Latinos, two (2.8%) Asians, one (1.4%) Arab/Middle Easterner, and three (4.2%) self-identified as other. Slightly more than one-third ($n = 26$; 36.6%) had less than a high school education, slightly less than one-third ($n = 22$; 31.0%) were high school graduates or equivalent, and one-quarter ($n = 18$, 25.4%) had some college education. Three (4.2%) had a college degree and two (2.8%) had some postcollege education (Table 1).

Table 1 Demographic Characteristics

Demographic	M (SD), n (%)
Age at discharge, M (SD)	37.9 (11.0)
Ethnicity, n (%)	
Caucasian	28 (39.4)
African American	34 (47.9)
Hispanic/Latino	3 (4.2)
Asian	2 (2.8)
Arab/Middle Eastern	1 (1.4)
Other	3 (4.2)
Education, n (%)	
Less than high school	26 (36.6)
High school diploma/equivalent	22 (31.0)
Some college	18 (25.4)
College degree	3 (4.2)
Post-college education	2 (2.8)

N = 71. Other ethnicities were Pakistani, Albanian, and Polish.

In terms of their legal histories, nearly all ($n = 66$, 93.0%) had had prior involvement with the legal system, half ($n = 35$, 51.5%) with prior convictions for violence. The average age at first arrest was 23.3 years (SD 9.7), the average number of prior convictions was 4.9 (SD 7.0; median 2.0), and the average number of prior incarcerations was 2.6 (SD 3.7; median 2.0). Thirteen (18.3%) were currently being held for misdemeanor charges, whereas 54 (81.7%) were being held for felony charges. The mean maximum exposure for the sample was 38.9 years (SD 55.9). Most of the sample ($n = 62$, 87.3%) had received some type of prior mental health treatment, with an average of 4.0 hospitalizations (SD 6.9; median 2.0). Two thirds ($n = 46$, 64.8%) had no prior episodes of incompetency, 14 (19.7%) had one prior episode, and 11 (15.5%) had multiple prior episodes (Table 2).

Approximately half ($n = 36$; 53.7%) of the sample had a primary Axis I diagnosis in the psychotic spectrum. Other primary Axis I diagnoses included: mood/anxiety ($n = 11$; 16.4%), substance abuse ($n = 9$; 13.4%), cognitive/other Axis I ($n = 4$, 5.6%), and none ($n = 7$; 9.9%). The most common Axis II diagnosis was deferred or none, with more than half of the sample ($n = 37$; 52.1%) receiving this diagnosis. Other Axis II diagnoses included personality disorders ($n = 21$; 29.6%), borderline intellectual functioning ($n = 8$, 11.3%), and mental retardation ($n = 5$, 7.0%). Fifty-three (74.6%) were prescribed medications during this hospitalization and, of these, 32 (60.4%) accepted them voluntarily, 13 (24.5%) were initially resistant but ultimately accepted them, and 8 (15.1%) were either adminis-

Table 2 Legal and Psychiatric Histories

Characteristic	M (SD), n (%)
Prior involvement with legal system, n (%)	
Yes	66 (93.0)
No	5 (7.0)
Prior conviction for violence, n (%)	
Yes	35 (51.5)
No	36 (48.5)
Age at first arrest, M (SD)	23.3 (9.7)
Prior convictions, M (SD)	4.9 (7.0)
Prior incarcerations, M (SD)	2.6 (3.7)
Controlling offense, n (%)	
Felony	54 (81.7)
Misdemeanor	13 (18.3)
Maximum exposure, M (SD)	38.9 (55.9)
Prior mental health treatment, n (%)	
Yes	62 (87.3)
No	9 (12.7)
Prior hospitalizations, M (SD)	4.0 (6.9)
Prior episodes of incompetency, n (%)	
None	46 (64.8)
One	14 (19.7)
Two or more	11 (15.5)

N = 71.

tered medication involuntarily or were not medicated at all. The majority of the sample ($n = 61$, 85.9%) did not have any episode of seclusion or restraint during this hospitalization. Of the 10 who did, 7 (70.0%) had one episode, 2 (20.0%) had two, and 1 (10.0%) had three episodes. The mean global assessment of functioning (GAF) score at discharge was 44.3 (SD 8.4) (Table 3).

Restored Versus Nonrestorable

Fifty-three (75.7%) of 71 patients were deemed competent to stand trial following a period of treatment and were discharged from the hospital. Seventeen (24.3%) ultimately were deemed nonrestorable and either were discharged to the community or were returned to the hospital to await civil commitment proceedings, and one patient (1.4%) died during the course of hospitalization. One patient was assessed by the team as being competent but was deemed by the judge not competent, not restorable. However, this was largely due to practical matters related to risk and the need for further treatment. Those deemed not competent, not restorable (NC/NR) had more prior hospitalizations ($t_{64} = -2.09$; $p = .04$), more prior incarcerations ($t_{64} = -2.03$, $p = .05$), and more prior episodes of incompetence to stand trial ($t_{64} = -2.90$; $p = .01$). They had lower IQs ($t_{31} = 3.62$; $p = .001$), and they had more medications prescribed ($t_{48} = -3.83$; $p < .001$). They were more

likely to receive diagnoses of borderline intellectual functioning ($\chi^2_1 = 14.75$; $p < .01$), mental deficiency ($\chi^2_1 = 8.32$; $p < .01$), and psychosis ($\chi^2_1 = 13.46$; $p < .01$), whereas defendants restored to competency were more likely to be diagnosed with a personality disorder ($\chi^2_1 = 5.86$; $p = .02$). Twenty-three (59.0%) of 39 psychotic patients were eventually restored to competency, compared with 30 (96.8%) of 31 of their nonpsychotic counterparts. Only 1 (20.0%) in 5 defendants diagnosed with mental deficiency ultimately was restored, compared with 52 (80.0%) of 65 defendants without this diagnosis. Defendants who were deemed nonrestorable had longer LOS ($t_{64} = -3.70$; $p < .001$) and lower GAF scores at discharge ($t_{48} = 6.03$; $p < .001$) than did their restored competent counterparts (see Tables 4 and 5 for significant differences; all others were nonsignificant).

Hierarchical logistic regression, using standard entry at each block, was conducted to determine the incremental impact of demographic, criminogenic, historical clinical, and current treatment variables in predicting restorability. Results indicated that demographic variables were related to competency ($R^2 = 0.12$; $\chi^2_3 = 7.75$; $p = .05$). However, only age emerged as a significant predictor and this only mar-

Table 3 Current Psychiatric Characteristics

Characteristic	M (SD), n (%)
Primary Axis I diagnosis, n (%)	
Psychosis	36 (53.7)
Mood/anxiety	11 (16.4)
Substance abuse	9 (13.4)
Cognitive/other	4 (5.6)
No diagnosis	7 (9.9)
Primary Axis II diagnosis, n (%)	
Personality disorder	21 (29.6)
Borderline intellectual functioning	8 (11.3)
Mental retardation	5 (7.0)
Deferred	16 (22.5)
No diagnosis	21 (29.6)
Prescribed medications, n (%)	
Yes	53 (74.6)
No	18 (25.4)
Acceptance of medications, n (%)	
Accepted voluntarily	32 (60.4)
Initially resistant but ultimately accepted	13 (24.5)
Administered involuntarily or not at all	8 (15.1)
Seclusion/restraint, n (%)	
None	61 (85.9)
One	7 (9.9)
Two	2 (2.8)
Three	1 (1.4)
GAF at discharge, M (SD)	44.3 (8.4)

N = 71.

Competency Restoration

Table 4 Competent Versus Nonrestorable Defendants

Variable	Competent	Nonrestorable	<i>t</i>	<i>p</i>
Prior hospitalizations	3.06 (3.67)	7.12 (12.21)	-2.09	.04*
Prior incarcerations	2.16 (2.50)	4.29 (6.09)	-2.03	.05*
Prior incompetencies	1.35 (0.66)	1.94 (0.90)	-2.90	.01*
IQ score	87.96 (12.87)	69.67 (13.12)	3.62	<.001*
Medications prescribed	1.91 (1.01)	3.07 (0.88)	-3.83	<.001*
Length of stay	98.92 (54.54)	173.18 (106.79)	-3.70	<.001*
GAF at discharge	47.39 (6.48)	35.65 (8.08)	6.03	<.001*

*Significant at $p < .05$. Data are expressed as the mean (SD).

ginally (OR = 1.06; 95% CI = 1.00–1.13; $p = .05$): older defendants were slightly more likely to be found nonrestorable than were younger defendants. The addition of criminogenic variables on the next block resulted in no significant improvement in predictability ($\Delta R^2 = .03$; $\chi^2_3 = 2.31$; $p = .51$). The addition of historical clinical variables on the next block significantly added to the overall model ($\Delta R^2 = .17$; $\chi^2_5 = 13.27$; $p = .02$), although no specific predictor emerged as a unique predictor. Finally, the addition of current treatment variables on the final block resulted in significant improvement in the model's predictability ($\Delta R^2 = .13$; $\chi^2_4 = 12.98$; $p = .01$), yielding an overall significant model ($R^2 = .45$; $\chi^2_{15} = 36.31$; $p = .002$). Examination of the odds ratios for the individual predictors in the final model revealed that those with more prior episodes of incompetence to stand trial (OR = 15.02; 95% CI = 1.25–181.20), who went more days before medications were initiated (OR = 1.05; 95% CI = 1.01–1.09), and who had better group attendance (OR = 18.81; 95% CI = 1.34–264.92) were more likely to be found not competent, not restorable (Table 6).

Length of Hospitalization

Overall, defendants had an average LOS of 116.3 days (SD 77.0; median 87.0). Those eventually deemed not competent, not restorable (mean 173.2; SD 106.8; median 177.0) had LOS nearly two times those of competent defendants (M 98.9; SD 54.5; median 81.0). (Data refer to competency restoration only. Most of those deemed not competent, not restorable remained in the hospital following resolution of competency, under civil commitment procedures.) Pearson correlations revealed that LOS was negatively related to IQ score ($r_{33} = -0.37$; $p = .04$) and GAF at discharge ($r_{67} = -0.39$; $p = .001$). Those with lower IQs and lower GAFs at discharge remained in the hospital for competency longer. LOS was positively related to days on some type of special observation ($r_{67} = 0.26$; $p = .03$), indicating that those who spent more days on special observation had longer LOS. LOS was unrelated to any of the other demographic, criminogenic, historical clinical, or current treatment variables assessed (Table 7).

Table 5 Competent Versus Nonrestorable Defendants

Variable	Competent	Nonrestorable	χ^2	<i>p</i>
Psychosis			13.46	<.01*
Yes	21 (56.8)	16 (43.2)		
No	28 (96.6)	1 (3.4)		
Borderline intellectual functioning			14.75	<.01*
Yes	2 (22.2)	7 (77.8)		
No	47 (82.5)	10 (17.5)		
Mental deficiency			8.32	<.01*
Yes	1 (20.0)	4 (80.0)		
No	48 (78.8)	13 (21.3)		
Personality disorder			5.86	.02*
Yes	18 (98.0)	1 (5.3)		
No	31 (66.0)	16 (34.0)		
Prior incompetencies			7.65	.02*
None	37 (84.1)	7 (15.9)		
Yes, 1	7 (63.6)	4 (36.4)		
Yes, >1	5 (45.5)	6 (54.5)		

N = 49. *Significant at $p < .05$. Data are the number of subjects (percentage of the entire group).

Table 6 Hierarchical Logistic Regression Analysis for Demographic, Criminogenic, Historical Clinical, and Current Treatment Variables Predicting Restoration

Predictor	B (SE)	Wald	p	OR (95% CI)
Demographic				
Age at discharge	0.12 (0.07)	3.17	.08	1.12 (0.99–1.28)
Minority status	0.74 (1.65)	0.20	.65	2.10 (0.08–53.24)
Education	-0.24 (0.87)	0.08	.78	0.79 (0.14–4.34)
Criminogenic				
Prior incarcerations	-0.22 (0.25)	0.80	.37	0.80 (0.49–1.31)
Offense class	-1.05 (0.68)	2.36	.12	0.35 (0.09–1.34)
Maximum exposure	-0.01 (0.04)	0.08	.78	0.99 (0.92–1.07)
Historical clinical				
Primary Axis I	-0.98 (0.94)	1.10	.29	0.37 (0.06–2.35)
Primary Axis II	-0.49 (0.66)	0.54	.46	0.61 (0.17–2.26)
Prior hospitalizations	0.28 (0.15)	3.39	.07	1.32 (0.98–1.77)
Prior incompetency	2.71 (1.27)	4.55	.03	15.02 (1.25–181.20)*
IQ class	-2.16 (1.26)	2.95	.09	0.12 (0.01–1.36)
Current treatment				
Days until medicated	0.05 (0.02)	4.80	.03	1.05 (1.01–1.09)*
Attendance	2.94 (1.35)	4.73	.03	18.81 (1.34–264.92)*
Participation	-1.77 (1.23)	2.09	.15	0.17 (0.02–1.88)
Seclusion/restraint	-0.91 (1.73)	0.27	.60	0.41 (0.01–12.02)

R² = 0.45*

Values listed are for final model (Block 4); OR, odds ratio; CI, confidence interval; offense class, current controlling (most serious) offense. *Significant at p < .05.

Notably, for those who were ultimately restored to competency, the pattern of correlations was slightly different. For this subgroup, LOS was positively related to age at discharge ($r_{53} = 0.37; p = .01$) and negatively related to GAF at discharge ($r_{53} = -0.36; p = .01$) and IQ class ($r_{53} = -0.30; p = .03$), such that older defendants with more cognitive deficits and overall functional impairments remained hospitalized for competency longer. Days on special observation was unrelated to LOS ($r_{53} = -0.01; p = .97$).

Hierarchical multiple regression using standard entry at each block was conducted to determine the incremental impact of demographic, criminogenic, historical clinical, and current treatment variables in predicting LOS. Results indicated that demographic variables were unrelated to LOS ($R^2 = 0.01; F_{3,15} = 0.04; p = .99$). The addition of criminogenic variables on the next block resulted in significant improvement in the model ($\Delta R^2 = 0.46; \Delta F_{3,12} = 3.45; p = .05$), but still an overall nonsignificant

model. Neither the addition of historical clinical variables on the next block ($\Delta R^2 = 0.03; \Delta F_{3,9} = 0.19; p = .90$) nor the addition of current treatment variables on the final block ($\Delta R^2 = 0.16; \Delta F_{4,5} = 0.59; p = .69$) contributed significantly to the model. At every block, the overall model was not significant, although it explained 66 percent of the variance in LOS at the final block ($R^2 = 0.66; F_{13,5} = 0.74; p = .69$); no individual predictors were significant in the final model (Table 8).

Discussion

Summary and Discussion of Findings

In the present study, 75 percent of all defendants were restored to competency in an average of less than 100 days, somewhat lower than the rate seen in prior studies, where 90 to 95 percent were restored.^{16–20} Possible reasons for the lower rate of restorability in the present study may be differences in the threshold for competency, as the data were collected on one unit at

Table 7 Correlations Among Predictor Variables and Length of Stay

	Age	Prison	Class	Max	Hosp	IST	IQ	Days	Attend	Part	S/R	Observe	GAF
LOS	0.23	-0.09	-0.11	-0.19	-0.06	0.06	-0.37*	0.13	0.19	-0.15	-0.07	0.26*	-0.39*

Age, age at discharge; Prison, number of prior incarcerations; Class, controlling offense class; Max, maximum exposure; Hosp, # of prior hospitalizations; IST, # of prior incompetencies; IQ, Full Scale IQ score; Days, days until medicated; Attend, group attendance; Part, group participation; S/R, episodes of seclusion/restraint; Observe, # of days on special observation; GAF, GAF at discharge

*Significant at p < .05.

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Table 8 Hierarchical Multiple Regression Analysis for Demographic, Criminogenic, Historical Clinical, and Current Treatment Variables Predicting Length of Stay

Predictor	B (SE)	β	p	t	Part r
Demographic					
Age at discharge	0.87 (3.34)	0.15	.81	0.26	0.07
Minority status	15.66 (50.04)	0.11	.77	0.31	0.08
Education	-1.77 (39.29)	-0.03	.97	-0.05	-0.01
Criminogenic					
Prior incarcerations	-20.06 (18.31)	-1.61	.32	-1.10	-0.29
Offense class	-25.04 (34.31)	-0.49	.50	-0.73	-0.19
Maximum exposure	0.76 (1.74)	0.44	.68	0.44	0.12
Historical clinical					
Prior hospitalizations	7.88 (6.95)	1.28	.31	1.13	0.30
Prior incompetency	66.90 (70.11)	0.87	.38	0.95	0.25
IQ class	45.36 (73.64)	0.68	.57	0.62	0.16
Current treatment					
Days until medicated	0.76 (0.54)	0.60	.22	1.24	0.37
Attendance	-9.03 (36.68)	-0.09	.82	-0.25	-0.06
Participation	7.36 (48.51)	0.08	.89	0.15	0.04
Seclusion/restraint	0.63 (78.50)	0.01	.99	0.01	<0.01
$R^2 = 0.66$					

Values listed are for final model (Block 4); offense class refers to current controlling (most serious) offense.

one hospital in one state. Future research ought to investigate rates from different programs across the nation to get a better sense of the average rates of restorability nationwide.

The typical nonrestorable defendant had slightly lower level charges; was diagnosed with a psychotic illness, low cognitive functioning, or both; was prescribed more medications; and had a history of prior episodes of incompetence. These individuals typically had longer LOS and a lower GAF at discharge than their restored counterparts. These findings are consistent with prior research and with the notion that incompetency is related to more resistant, treatment-refractory illnesses, untreated or untreatable cognitive disorders, and generally poorer overall functioning.^{10-11,15} However, several variables expected to relate to ultimate decisions regarding competency (e.g., medication refusal, episodes of behavioral dyscontrol, participation in the program) bore no relation to restoration.

The positive relationship between group attendance and nonrestorability may seem counterintuitive. However, this is most likely explainable by the fact that group attendance was much more the norm than the exception; most patients attended most competency groups available to them. A certain percentage of defendants, however, were more court savvy upon admission and were more resistant to attending groups, due to their assertions that they already had the requisite court knowledge. As such, the relationship between group attendance and nonrestorability actually was driven by a

relationship between group refusal and restorability for a select subset of defendants, who did not need the psychoeducational aspects of the treatment program.

Few variables were related to LOS, in contrast to previous studies. Individuals with lower IQs and lower GAFs at discharge remained hospitalized for competency restoration longer, whereas those who spent more days on some type of observation had longer LOS. Such findings are consistent with what we know about competency. A defendant's IQ and GAF at discharge both are significant markers of overall functioning. These findings suggest that the sickest, lowest functioning individuals with the fewest cognitive and psychological resources stayed longer. Likewise, some patients who required special observation were those who had significant behavior problems. This inability to control their behavior may serve as a marker of their inability to work with or assist counsel or to maintain appropriate courtroom behavior.

Implications of the Current Findings

Competency restoration is a complex process, with many unique variables influencing how long individuals remain hospitalized, not all of which were measured in this work (or are easily measured). First, the most common reason that defendants are deemed incompetent is their inability to form a collaborative relationship with an attorney to assist in their own defense. This capability is difficult to measure. Although the quality of the patient's relation-

ship with mental health professionals often serves as a proxy for the defendant's capacity to formulate collaborative, working relationships with others, the nuances of the attorney-defendant relationship differ from those of the therapeutic relationship and are not always apparent. For instance, many defendants have the capacity to form a collaborative relationship with others, but nonetheless harbor suspicions regarding attorneys assigned by the state to represent them, perceiving these public defenders as colluding with the prosecution through their link as state employees. Furthermore, in light of the recent U.S. Supreme Court decision in *Indiana v. Edwards*,²² a mentally ill defendant who disagrees with his attorney on principle through perfectly rational means may not be permitted to proceed *pro se* by virtue of his mental illness, creating an impasse for treaters in trying to restore him to competency.

Another reason defendants are deemed incompetent is their inability to appreciate rationally their own legal situation. That is, they may have excellent knowledge of the legal system and an acceptable awareness (but not a rational appreciation) of their legal situations. They may be fully invested in and committed to treatment but still harbor delusional, illogical, or misguided ideas about their cases, ideas that are not necessarily conducive to treatment efforts, pharmacological or otherwise. In other words, they may be intelligent, not floridly psychotic or disorganized, generally functioning adequately, and fully participating in the restoration program—all variables associated with competency—and still be deemed incompetent.

There are many other variables, some of which are beyond the control of the treaters, that play a role in how long patients stay for restoration. For one, a patient's lack of cooperation with getting collateral records can lengthen an evaluation if treaters need the information to answer questions about a patient's diagnosis or capacities. This could be related to a patient's psychosis but also could be related to a completely rational, competent awareness of the need to maintain confidentiality regarding his legal and related personal matters. Similarly, patients who refuse recommended medications may initiate a sometimes lengthy process whereby the treatment team pursues involuntary medications, which could take anywhere from a few weeks to years, if the patient appeals the decision. These patients may not be any lower functioning than other patients, yet end up staying much

longer, obscuring any clear relationship between the variables.

More frustrating are the unique system variables that confound the restoration process. Some attorneys may use competency as a legal strategy—for instance, as a means of delaying the process (to lengthen the time between the alleged crime and adjudication or sentencing, as this tends to relate to a less severe punishment) or as a means of laying the groundwork to introduce a mental health defense at trial. Others may utilize competency as a way to get marginally competent but untreated defendants treatment. There are numerous other reasons that competent defendants may remain hospitalized longer, such as court continuances for personnel reasons, requests for more time from either party, requests for independent evaluations of the defendant, delays surrounding discharge planning, and other related matters, further skewing the relationship between competency and LOS.

Given the variability in practices across jurisdictions, it may be difficult to ever discern with much more clarity which specific variables predict competency. Evaluators ought to keep in mind that outcomes have more to do with current functional abilities when predicting restorability. Perhaps, barring any obvious, irreversible impediments (such as a progressive dementia or moderate mental retardation) evaluators ought to err on the side of assuming that a defendant is restorable until it can be determined otherwise. At the same time, treaters ought to recognize that a history of being restored is not an automatic marker for present restorability.

Limitations and Future Directions

As noted previously, this study was limited in that it was conducted on one unit of one hospital in one state; thus, it could reflect the biases of that clinical team or the way that competency is interpreted in that state. Future research ought to examine the factors related to competency restoration outcomes with a larger, more diverse sample across multiple settings and, ideally, multiple states simultaneously, to ensure that the variables related to competency are not sample dependent. State-by-state comparisons may shed light on what factors or treatment approaches have the highest success rates in restoring defendants to competency. Given this narrow scope, the study also was limited by the small sample size, much smaller than that obtained in previous studies.

Obviously, this limits the strength of the conclusions that can be drawn. However, the findings were consistent with previous research with respect to easily measured demographic and static variables. Furthermore, the effect sizes of the nonsignificant findings were small, indicating that the lack of significance was not solely a matter of power. This study also was limited by the fact that it was an archival chart review and thus was constrained by the variables that were able to be measured reliably and validly. Future research ought to devise better ways to capture the more idiosyncratic variables, such as defendants' relationships with attorneys or the precise, specific symptoms (rather than just diagnoses) interfering with their appreciation of their legal situation.

Given the lack of consistency in variables examined across studies, one suggestion for future research is to investigate in much greater detail the logic and reasoning behind team's opinions regarding competency. Forensic evaluators often are expected to outline the specific data and reasoning that guide their opinions,²³ but this rarely entails all the nuances of cases outlined above that factor into what keeps patients hospitalized for so long. Surveying directly these evaluators about their reasoning in formulating their opinions would be worthwhile to tease out some of the systemic variables that play a role in how long patients stay in the hospital for restoration efforts. Similarly, future researchers ought to consider using a more precise measurement of the length of time required for competency restoration, such as the exact date that the evaluator or treatment team determines a defendant to be competent, as opposed to the date the court determines such and a defendant is released from the program. This would help to reduce the confounding effect of the systemic variables that interfere with the relationship between clinical and treatment-specific variables and competency decisions.

By and large, further understanding the characteristics associated with restorability, and with rapid versus delayed treatment response, will help to shape our understanding of competency, to increase evaluators' predictions regarding the restorability of individual defendants, and to enable mental health professionals to provide better treatment.

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