

Insanity Plea: Predicting Not Guilty by Reason of Insanity Adjudications

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Using 35 variables and discriminant analysis procedures, it was found that, of 133 male defendants entering the insanity plea in Colorado, 87 percent were classified correctly into the disposition groups "adjudicated insane" and "convicted." Most positively related to an insanity adjudication were a psychiatric evaluation of insanity and a diagnosis of schizophrenia. Negatively related to the insanity verdict were diagnoses of substance use and personality disorders.

Two previous studies have attempted to differentiate criminal defendants entering the insanity plea who were adjudicated insane from those who were not. Using univariate statistics, Steadman *et al.*¹ employed a subject pool of all 202 defendants pleading not guilty by reason of insanity (NGRI) in Erie County, New York, during the period 1970 to 1980. They found that defendants in the 25- to 39-year age group, those with five or more psychiatric hospitalizations, and those evaluated as insane by psychiatric examiners (70%) were more likely to be adjudicated NGRI. Results also indicated that related to the psychiatric evaluation of insanity at the time of the

commission of the crime was a diagnosis of psychosis (82%) and age.

Rogers *et al.*² determined that, with 115 defendants pleading insanity in Chicago, the insanity adjudication was related to a prior history of schizophrenia, completion of high school, and a finding of insanity during the psychiatric evaluation.

Subjects and Method

Subjects comprised all 151 male NGRI defendants evaluated for insanity at the Colorado State Hospital from July 1, 1980 to June 30, 1983. In Colorado, female defendants are evaluated elsewhere. From this initial subject pool of 151, 18 cases were excluded because of death, dismissal of charges, cases still pending, missing data, or the sealing of court records. These exclusions resulted in a final subject group of 133. Subsequently, 36 (27%) were adjudicated NGRI and 97 (73%) were convicted.

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Sociodemographic data on subjects, including diagnosis, prior psychiatric treatment, and results of the psychiatric evaluation, were gathered from hospital records. Arrest records were secured from both the Colorado Bureau of Investigation and the Federal Bureau of Investigation. Court dispositions were obtained from records of the court of jurisdiction for each defendant.

From the assembled data, 35 variables were extracted that were then entered into discriminant analyses. Essentially, the discriminant analysis procedure identifies the contribution that each variable makes in predicting criterion group membership. In this instance, two criterion groups were established: (1) adjudicated insane and (2) convicted.

Results

Sociodemographic Characteristics of Defendants As a group, the defendant population was somewhat older than the general criminal defendant and averaged 29.1 years. They were primarily white (80%), with Hispanics, blacks, and Native Americans comprising 13 percent, 6 percent, and 1 percent of the population, respectively. Defendants tended to be fairly well educated and had a mean educational level of 11.4 years. At the time of the offense 66 percent were never married, 22 percent were married, 27 percent were divorced or separated, and 1 percent were widowed. Their employment records were poor. At the time of the offense 74 percent were unemployed and 87 percent had not worked continuously at a job during the previous year. A large proportion had a prior history of alcohol (64%) and drug abuse (64%),

and 80 percent had a prior admission at either an inpatient or outpatient mental health facility.

For most defendants the NGRI offense did not represent their first encounter with the criminal justice system. Seventy-three percent had at least one prior arrest and 64 percent had incurred a previous felony arrest. Arrests ranged from 36 people with no arrest to one person having 30 arrests.

NGRI Offenses Crimes against other people contributed the largest proportion (65%) of the offenses to which defendants pleaded insanity. Most frequently represented within this category were murder (19%), robbery (13%), rape (11%), and assault (10%). Crimes against property comprised 27 percent of the offenses, with burglary contributing 11 percent, auto theft 5 percent, and arson 5 percent. Narcotics misdemeanors accounted for 2 percent of all NGRI offenses whereas crimes against public order and "other felonies" contributed 4 percent and 2 percent, respectively. Felonies represented 94 percent of all offenses.

Diagnosis at Time of Psychiatric Evaluation In descending order of frequency, the primary diagnoses accorded defendants were substance abuse disorders (27%), schizophrenic disorders (24%), antisocial personality disorder (12%), other personality disorders (8%), major affective disorders (8%), psychosexual disorders (5%), mild mental retardation (3%), and organic mental disorders (5%). Other diagnostic categories comprised 6 percent of the cases and no psychiatric disorder was discerned in 4 percent of the subjects.

Concordance of Insanity Evaluation and Adjudication As in prior studies,¹⁻³ a high concordance was found between results of the psychiatric evaluation and eventual court disposition. Overall, court decision concurred with psychiatric opinion in 117 (88%) of the 133 cases. Of the 36 defendants adjudicated insane, 32 (89%) were evaluated as insane. Of the 97 receiving a guilty verdict, a psychiatric finding of sanity occurred in 85 (88%) of the cases (Table 1).

Predicting Group Membership Through Discriminant Analyses Three discriminant analyses were performed. In addition to those variables previously discussed, a number of others were included in the analyses. These included: age at first arrest, age at first felony arrest, number of prior arrests, a criminal activity index, average severity of prior arrests, seriousness of NGRI offense, whether the NGRI offense was murder, and length of hospitalization for evaluation. The "criminal activity index" for each defendant was computed by summing the maximal sentence for each prior offense. In this procedure, for example, murder contributed 45 years and a violation .25 years. "Average severity of prior arrests" was computed by divid-

ing the criminal activity index by the number of arrests. The "seriousness of the NGRI offense" was based on a scale of 1 to 9 that corresponded to the classification of various classes of felonies, misdemeanors, and violations. For example, murder was classified as 1 and a violation as 9.

Predicting Court Disposition In the first discriminant analysis, all variables, including psychiatric evaluation results, were used to identify those differentiating NGRI acquittees from convicted defendants. Structure coefficients, the correlation of the variables with the discriminant functions, permit the identification of those variables that are most like the information contained in the discriminant function. Squares of the coefficients provide some measure of the variance accounted for by each variable, and all coefficients reported are the squares of the structure coefficient. The most efficacious variables in distinguishing the two groups are the results of the psychiatric evaluation (.85) and diagnoses of schizophrenia (.37), substance abuse disorder (.07), and personality disorder (.06). Those defendants most likely to be included in the NGRI acquittee group are psychiatrically evaluated as insane and have primary diagnoses of schizophrenia. Negatively related to an NGRI verdict are diagnoses of substance use disorder and personality disorder. Using the derived discriminant function, correct identification of group membership is made in 116 (87%) of the cases (Table 2).

Predicting Sanity Evaluation Results Because of the large contribution made by the psychiatric evaluation

Table 1
Concordance between Insanity Evaluation Opinion and Court Adjudication

Evaluation	Adjudication					
	NGRI		Guilty		Total	
	N	%	N	%	N	%
Sane	4	11	85	88	89	67
Insane	32	89	12	12	44	33
Total	36	100	97	100	133	100

Table 2
Classification Resulting from Discriminant
Analysis

Actual*	Predicted	
	NGRI	Guilty
Court disposition (all variables)*		
NGRI	32 (89%)	4 (11%)
Guilty	13 (13%)	84 (87%)
Correct classification	116/133 = 87%	
Psychiatric evaluation (all variables)†		
NGRI	37 (82%)	8 (13%)
Guilty	11 (12%)	77 (88%)
Correct classification	114/133 = 86%	
Adjudication (excluding psychiatric evaluation)*		
NGRI	26 (72%)	10 (28%)
Guilty	13 (13%)	84 (87%)
Correct classification	110/133 = 83%	

* Of 133 subjects, 36 were actually adjudicated insane and 97 guilty.

† Of the 133 subjects, 45 were actually evaluated as insane and 88 as sane.

variable in predicting court disposition two additional discriminant analyses were conducted. In the first of these, all variables were used to categorize defendants into two groups: (1) those psychiatrically evaluated as insane and (2) those evaluated as sane at the time of NGRI offense. The variable most related to this discriminant function was a diagnosis of schizophrenia (.64). Negatively related to a psychiatric evaluation of insane were diagnoses of personality disorder (.08), substance use disorder (.08), or psychosexual disorder (.05). Using the derived discriminant function, a correct identification of criterion group membership was obtained in 114 (86 %) of the 133 cases (Table 2).

Predicting Adjudication Excluding Psychiatric Opinion The third discriminant analysis conducted used all vari-

ables except the results of the psychiatric evaluation. As mentioned previously, prior studies have reported a high concordance between psychiatric opinion on the issue of insanity and final court adjudication. In this analysis, categorization of the groups was made without use of that variable. Some disagreement prevails in the literature concerning the influence of psychiatric opinion in the insanity plea process. Steadman *et al.*¹ and Rogers *et al.*² attribute the high concordance observed between the results of psychiatric evaluation and eventual court verdict to the potency of psychiatric testimony. In contrast, Fukunaga *et al.*³ suggest that, although this explanation might be correct, another viable hypothesis exists. That is, two independent bodies evaluating the same circumstances reach comparable conclusions.

When the result of the psychiatric evaluation is not considered, most contributory in differentiating the groups was a diagnosis of schizophrenia (.66). Also relating to the adjudication of insanity were prior psychiatric treatment (.15), a diagnosis of substance abuse (.07), and histories of drug abuse (.07) or alcohol abuse (.06), with the latter three variables being negatively related to inclusion within the insanity group.

Excluding the psychiatric evaluation results, correct identification of group membership of defendants occurred in 83 percent (110) of the 133 cases (Table 2). This compares to an 87 percent rate when the psychiatric variable was included.

Unfortunately, these results do not really answer the question of the role of psychiatric opinion in insanity cases.

Even though the influence of this variable was statistically removed, in fact, psychiatric opinion was presented in the case of each defendant. To answer the question definitively, it would be necessary systematically and randomly to remove psychiatric testimony in this type of trial. However, ethical as well as practical considerations preclude this alternative. The question, however, remains an interesting one, and at present the investigators are pursuing a mock jury study in which psychiatric testimony is systematically excluded. However, any results obtained from this in progress study would be speculative because considerable questions exist about the generalization of mock jury studies to the actual court process.

Inferences from Present Investigation

Previously, Pasewark and Pasewark⁴ raised questions as to whether results from insanity plea studies in one jurisdiction can be generalized to other jurisdictions. The present study suggests that some commonality does exist, at least for some of the variables examined. A high concordance rate comparable to that in Hawaii,³ New York,¹ and Chicago² was found in Colorado between the results of psychiatric evaluations and judicial dispositions. Similar to Chicago, in Colorado a diagnosis of schizophrenia was strongly related to an adjudication of insanity and in New York a diagnosis of psychosis was associated with such a verdict.

Results of the study have greater implications for the state of Colorado. Essentially, findings suggest that the insan-

ity plea process complies fairly well with statutory provisions. First, there is but a "small window of nonculpability" established by the insanity plea. The plea is entered rarely and only a limited number of defendants are actually adjudicated insane. Second, the psychiatric evaluation system appears to function effectively. For whatever reason, there is a high concordance (88%) between the results of the psychiatric evaluation and eventual court disposition. Third, generally those individuals accorded a psychotic diagnosis are found insane. In contrast, adjudication of insanity is negatively associated with nonpsychotic diagnoses such as substance abuse disorders, which is in marked contrast to results in Connecticut, where a high proportion of insanity acquittees were diagnosed as having personality disorders.⁵ Fourth, other factors not relevant to statutory provisions are not generally associated with an NGRI verdict. Among such factors are severity of the NGRI offense, prior arrests, ethnicity, and employment status.

References

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