Legal Outcome and Clinical Findings: A Study of Insanity Evaluations

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Little research has examined agreements and disagreements between clinical evaluations of sanity and the subsequent legal dispositions. Few studies have examined the level of agreement between clinical evaluation of sanity and subsequent legal disposition. For example, Fukunaga and his associates[1] found an exceptionally high concordance rate of 93 percent, which may be partially explained by Hawaii's nonadversarial system in which one or more examiners are appointed by the court. Further, Williams and Miller[2] found a better than 90 percent agreement between hospital staff's conclusions regarding defendant's competency to stand trial and the court's decision; although data is reported with respect to not guilty by reason of insanity (NGRI) findings, the level of agreement was not reported. Given this paucity of empirical research, the primary focus of this study is to establish (1) the concordance rate between clinical findings and legal dispositions on insanity cases and (2) determine in cases of disagreement which psychological, sociodemographic, and legal variables may account for these differences in judgment.

The very process of making a legal determination of sanity is complicated by its multifaceted process that restrospectively addresses the multidetermined behavior of an individual during the commission of an alleged crime. It is therefore important to establish what role if any sociodemographic and psychological variables play in making the actual legal disposition. As an analog, studies of sentencing have demonstrated that physical attractiveness of the defendant[3] as well as race[4] have been significant determinants of the length of incarceration.

The examination of agreement/disagreement between forensic experts and triers of fact is of particular importance in the examination of the insanity defense. Concern about how the two professions interact on this complicated psycholegal issue has been highlighted in a comprehensive study of the New York state approach to insanity evaluations.[5] Further, psychiatrists themselves have expressed disfavor toward their colleagues' involvement in insanity evaluations as something possibly beyond their expertise.[6] More recently, however, the American Psychiatric Association[7]

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proposed a moderate position allowing psychiatric testimony in insanity evaluations. Finally, while expressing reservations about psychiatrists' testifying to the legal standard from a legal perspective, the comprehensibility and practical utility of forensic psychiatric and psychological reports on insanity have likewise received little attention. Petrilla and Poythress[8] found that forensic mental health professionals did moderately well at applying the proper legal criteria of insanity and communicating the bases of these findings to the court. Others, as Dietz *et al.*[9] have found deficiencies in forensic psychiatric and psychological reports in their capacity to communicate effectively with attorneys and judges.

The final area that bears on the focus of the current study is that of what differences are known between individuals determined to be NGRI and those convicted of crimes. Pasewark, *et al.*[10] and Steadman *et al.*[11] studied differences between these two groups in respect to criminal history, rehospitalization, and rearrest rates. Pasewark[12] has provided a comprehensive review of the literature as it relates to findings of NGRI; no direct comparisons were made, however, with those individuals found guilty. Rogers *et al.*[13] studied the social and demographic characteristics of 115 individuals clinically evaluated and legally adjudicated for sanity. They found significant differences between those clinically judged sane and insane for race, completion of high school, history of schizophrenia, alcohol abuse, outpatient treatment, and psychoactive medication. Further, they found that four of these background variables (completion of high school, sex, history of alcohol abuse, history of psychoactive medication) were potential predictors to the legal outcome of insanity. The study did not address how these variables related to whether there was a consensus or disagreement between clinical findings and the legal determination of insanity.

Several research questions were formulated to examine differences in clinical-legal agreements and disagreements regarding insanity: (1) Do sociodemographic variables and the defendants' past psychiatric history differ significantly in the percentage of agreements/disagreements between clinical findings and the subsequent legal disposition? (2) Do the cases of clinical-legal disagreement differ in severity of psychological impairment from those where there is agreement regarding sanity or insanity? (3) Can a preliminary prediction model be developed based on sociodemographic and/or psychiatric history variables that will indicate the likelihood of agreement or disagreement between clinicians and triers of fact on the issue of insanity?

Method

Three sources of data were used in addressing the above questions. First, a two-page data sheet was used for the examination of pertinent sociodemographic and psychiatric history information. These data were gathered by research staff at the Isaac Ray Center in Chicago and by the Court Diagnostic and Treatment Center, Toledo, by reviewing psychiatric

and psychological reports, and other clinical and police-investigative records; the data were collected retrospectively and independent of the actual clinical evaluation for insanity. Second, psychological data were gathered from the participating forensic psychiatrists and psychologists as a component of their actual evaluation of insanity focusing on the evaluatees' psychological impairment at the time of the alleged crime. This information was systematically recorded by clinicians through the use of the Rogers Criminal Responsibility Assessment Scales (RCRAS) protocol. The RCRAS was designed by Rogers and his associates[14–15] for the empirical evaluation of criminal responsibilities; it consists of 25 psychological and situational variables that are quantified on five summary scales: Patient Reliability (including malingering), Organicity, Psychopathology, Cognitive Control, and Behavioral Control, the last four scales being rated for the period of the alleged crime. Through a series of studies,[16–18] this protocol has demonstrated satisfactory interrater reliability and construct validity in rendering clinical opinions on insanity. For the third source of data, the authors gathered the legal disposition of all available cases by contacting the appropriate circuit courts.

The Isaac Ray Center and Court Diagnostic and Treatment Center are outpatient forensic clinics experienced in conducting insanity evaluations. Both centers accept referrals from district and defense attorneys and are in jurisdictions that employ the ALI standard. Typical insanity evaluations involve multiple clinical interviews, thorough record review, and psychological testing, averaging between five and ten hours of direct clinical contact with each evaluatee.

The study consisted of a consecutive sample of defendants collected over 24 months from January 1, 1981 to December 30, 1982. This resulted in a total sample of 139 defendants, for whom both psychological and sociodemographic data were available. Because of the sometimes extended delay between insanity evaluations and the actual legal disposition, data on legal outcome were available on 112 of the 139 subjects. The overall sample consisted of 120 male and 19 female subjects clinically evaluated for insanity of whom 41 were assessed as insane, 85 as sane, and 13 for which no decision was rendered. Of these, legal dispositions were available in 112 cases with 27 determined to be insane, 77 guilty, 5 having charges dismissed, and 3 not guilty. Subjects, based on the total clinical sample, had a mean age of 27.96 and were racially divided into 36 percent black, 62 percent white, and 2 percent Hispanic.

A series of univariate and multivariate statistics were utilized in the examination of agreements and disagreements in the clinical-legal determination of sanity. Since most of the sociodemographic variables were categorical, chi-square tests were calculated to address how each variable varied in frequency by clinical-legal agreement and disagreement. To examine what combination of sociodemographic variables would be most powerful in predicting clinical-legal agreement/disagreement, a stepwise logistic regression[19] was performed; for those variables that discriminated,

specific probabilities of clinical-legal agreement were generated. Further, the relationship between psychopathology at the time of the crime (as measured by the RCRAS) and clinical-legal agreement/disagreement on insanity was first examined employing a multivariate analysis of variance. Since this proved to be significant, one-way ANOVAs were calculated for the five summary scales of the RCRAS with Duncan Multiple Range tests for ascertaining where significant relationships existed.

Results

Comparison of the frequency of the clinical-legal agreement/disagreements between the two data collection sites resulted in 88.5 percent agreement at the Isaac Ray Center and 88.1 percent agreement at the Court Diagnostic and Treatment Center. These results are nearly identical with a chi square of .00 ($p = .99$). Further, in examining the overall concordance for both centers there was a 96.1 percent agreement on sanity and 70.4 percent on insanity. This resulted in a total of 11 cases (3 sane and 8 insane) where there was disagreement.

The first research question examined the differences in frequencies among cases of (1) disagreement and agreement on insanity and (2) disagreement and agreement on guilt. Percentages and chi squares for the sociodemographic variables are presented in Table 1. A similar analysis of percentages and chi squares for specific psychiatric history variables are summarized in Table 2.

The second research question focused on the psychological impairment at the time of the alleged offense and its potential role in agreements/

Table 1. Percentages of Agreements and Disagreements between Clinical and Legal Determinations of Insanity/Guilty on Sociodemographic Variables

Variables	Insane			Guilty		
	% agree	% disagree	χ^2	% agree	% disagree	χ^2
Sex:			4.44*			1.89
Male	58	42		82	18	
Female	100	0		100	0	
Race:			.03			2.11
Black	67	33		77	23	
White	70	30		91	9	
Marital Status:			2.67			2.08
Married	100	0		100	0	
Not Married	58	42		81	19	
Completion of High School:			4.75*			1.02
Yes	74	26		78	22	
No	29	71		87	13	
History of Full-time Work:			.02			1.10
Yes	61	39		78	22	
No	64	36		88	12	
Age:			.26			1.13
<27	61	39		80	20	
>28	71	29		90	10	

*$p = .05$

disagreements between clinical findings and the subsequent legal disposition. Most specifically the differences in the RCRAS summary scales were examined from both clinical and legal perspectives for three groups (1) agreement on insanity, (2) agreement on sanity, and (3) disagreement. Means and Duncan's Multiple Range tests are reported in Table 3, identifying the differences among the three groups at the .05 level of significance.

The third research question addressed to what extent the sociodemographic and psychiatric history variables could predict probability of agreement between clinicians' findings and the legal outcome. In employing the stepwise logistic regression model, two psychiatric history variables

Table 2. Percentages of Agreements and Disagreements between Clinical and Legal Determinations of Insanity/Guilty on Psychiatric History Variables

Variables	Insane			Guilty		
	% agree	% disagree	χ^2	% agree	% disagree	χ^2
Schizophrenia			2.74			23.85*
Yes	55	45		47	53	
No	88	12		98	2	
Affective Disorders			2.67			2.46
Yes	100	0		100	0	
No	58	42		80	20	
Alcohol Abuse			.64			3.35
Yes	75	25		93	7	
No	59	41		76	24	
Drug Abuse			1.29			.31
Yes	53	47		81	19	
No	73	27		86	14	
Prior Hospitalization			.01			1.50
Yes	63	37		77	23	
No	64	36		88	12	
Prior Outpatient Treatment			.26			.24
Yes	69	31		81	19	
No	60	40		86	14	
Prior Treatment with Psychoactive Medication			.82			14.30*
Yes	58	42		62	38	
No	80	20		97	3	

*$p = .01$

Table 3. Means and Comparisons of Three Groups of Insanity Determinations: (1) Clinical-Legal Agreement of Insanity (2) Clinical-Legal Agreement of Sanity, and (3) Clinical-Legal Disagreement, on the Summary Scales of the RCRAS

RCRAS Summary Scales	Group Means			Duncan's Multiple Range Test (.05 level)		
	Group 1: Agree Insane	Group 2: Agree Sane	Group 3: Disagreement	1 vs 2	1 vs 3	2 vs 3
1. Patient Reliability	2.18	1.99	2.63			sig
2. Organicity	1.15	1.47	1.30	sig		
3. Psychopathology	2.82	1.57	2.46	sig	sig	sig
4. Cognitive Control	3.92	2.39	3.45	sig	sig	sig
5. Behavioral Control	3.85	2.41	3.23	sig	sig	sig

Table 4. Log Linear Model for Predicting Agreement between Clinical and Legal Determinations of Sanity Using Selected Psychiatric History Variables

Psychiatric History Variables		Predicted Probability of Agreement
Prior History of Schizophrenia	Prior History of Hospitalization	
Yes	No	.50
Yes	Yes	.78
No	No	.96
No	Yes	.99

(previous history of schizophrenia and psychiatric hospitalization) were selected as significant predictors. None of the sociodemographic variables had sufficient power to be included in the prediction of agreement/disagreement. Table 4 summarizes the log linear model with the predicted probability of agreement for combinations of these variables.

Discussion

The study found a moderately high concordance rate of 88.3 percent between clinicians and triers of fact on the issue of sanity, which remained consistent across both jurisdictions. In reviewing the study's findings, it becomes apparent that both sociodemographic variables as well as specific psychiatric history variables play a secondary role as to whether there is agreement or disagreement in insanity determinations. This is evident in the large majority of variables in which no significant differences are found in the frequency of agreement vs disagreement. Whether the defendant is a male or female affects the frequency of agreement between legal and clinical findings. More specifically, there was no disagreement with respect to any female defendants, but 42 percent disagreement with the clinical finding of insanity and 18 percent disagreement with the clinical findings of sanity for the male defendants. The only additional sociodemographic variable that varied significantly was completion of high school. A disproportionate number of disagreements regarding the clinical finding of insanity occurred for those individuals who have not completed high school (71 percent disagreement with those who did not, in contrast to 26 percent with those who did).

The defendants' psychiatric history prior to the current offense showed few differences for clinical-legal agreements of insanity. Differences occurred primarily when the individual was legally determined to be guilty. Disagreements with clinical findings occurred when there was a prior history of schizophrenia and treatment with psychoactive medication; in both cases the triers of fact disagreed more frequently when clinicians found prior history of schizophrenia and medication. This is consistent with earlier findings[20] that these two variables were more strongly associated with a clinical finding of insanity than the actual legal disposition. Therefore, in situations where clinicians do not find a prior history of schizophrenia or psychoactive medication there is likely to be little room for disagreement.

This was corroborated in the present data analysis: 53 percent disagreement with a history of schizophrenia vs 2 percent without; 38 percent disagreement with a history of psychoactive medication and 3 percent without.

Comparisons of clinical-legal agreement for sane and insane defendants yielded interesting results when examined in relationship to the summary scales of the RCRAS. These results indicate that defendants in the disagreement group tended to fall between the agree-sane and agree-insane groups with respect to the severity of their psychopathology, and lack of cognitive control and behavioral control over their criminal behavior. This finding suggests that triers of fact take into account the clinicians' judgments (as well as, perhaps, other sources of data) in arriving at the determination and that the cases of disagreement could be conceptualized as "marginal" cases. An additional factor not studied was how many of the disagreement cases involved disputed clinical findings in which the trier of fact was in essence in agreement with the conclusions of another clinical evaluation. This would not, however, explain why the disagreement group had more severe impairment and a greater loss of control than the agree-sane group and less than the agree-insane group. It also should be noted that evaluatees in the disagreement group were rated as less reliable than the agreement groups and particularly the agree-sane group. Differences in the clinicians' assessment of defendants' honesty and credibility may also account, in part, for the disagreements between the trier of fact and the clinician.

The stepwise logistic regression model established only two psychiatric history variables and no sociodemographic variables as potential predictors of clinical-legal agreement. The absence of a schizophrenic history prior to the current offense was the most powerful predictor of clinical-legal agreement resulting in 96 to 99 percent likelihood that the legal outcome would be consistent with the clinical findings. Clinical-legal agreement was least likely to occur when a patient had a prior history of schizophrenia *without* concomitant psychiatric hospitalization; this combination of variables had to only a 50 percent probability that triers of fact would follow the clinical findings on sanity/insanity. One possible explanation for this finding may be the apparent contradictoriness (as viewed by the nonprofessional) of diagnosing schizophrenia without a history of psychiatric hospitalizations.

Conclusions

The study found a moderately high degree of consistency between the clinical evaluations of sanity and the subsequent legal determinations. Examined individually only sex and completion of high school had significant impact on the proportions of disagreement relative to insanity with no variables having such an impact on the finding of guilt. Similarly, the psychiatric history variables were generally consistent between clinical and legal findings. As to the finding of guilt, only prior histories of schizophrenia or treatment with psychoactive medication resulted in a larger proportion of disagreements than those without such histories. Examination of

psychological variables as they relate to impairment and loss of control at the time of the crime indicated that the disagreement group may be conceptualized as "marginal" cases in forming a group clinically distinct from both the agree-insane and agree-sane groups. This suggests that the triers of fact are aware of the psychological bases of the expert opinion as well as the opinion itself. A logistic regression model indicated the specific probabilities of agreement and disagreement between clinicians and triers of fact, with the absence of a prior schizophrenic history being the most effective predictor of agreement.

This study through its examination of select sociodemographic variables as well as psychological variables at the time of the crime, underscores the complexity of the decision process for the legal finding of insanity. Although several variables involving age, educational background, and psychiatric history may influence the legal disposition, these dispositions are generally highly consistent with the clinical evaluation and appeared to be based in part on a clinician's assessment of the individual's overall psychological impairment and concomitant loss of cognitive and behavioral control. This suggests, despite the recent controversies in the field, the legal outcome is closely related to the clinical evaluation and not unduly influenced by sociodemographic factors.

References

1. Fukunaga KK, Pasewark RA, Hawkins M, Gudeman H: Insanity plea: interexaminer agreement in concordance of psychiatric opinion and court verdict. Law and Human Behav 5:325-28, 1981
2. Williams W, Miller KS: The processing and disposition of incompetent mentally ill offenders. Law and Human Behav 5:245-62, 1981
3. Weiten W, Diamond SS: A critical review of jury simulation paradigm: the case of the defendant characteristics. Law and Human Behav 3:71-84, 1979
4. Field HS: Rape trials and jurors' decisions: A psycholegal analysis of the effects of victim, defendant, and case characteristics. Law and Human Behav 3:261-84, 1979
5. Carnahan WA: The Insanity Defense in New York. A Report to Governor Hugh L. Carey. New York Department of Mental Hygiene, 1978
6. Cavanaugh JL, Rogers R, Price B: The insanity defense in Illinois: A psychiatric perspective. Bull Am Acad Psychiatry Law 8:56-61, 1980
7. American Psychiatric Association: Statement on the Insanity Defense. Washington, DC: American Psychiatric Association, 1982
8. Petrella RC, Pythress NG: The quality of forensic evaluations: An interdisciplinary study. J Consult Clin Psychol 51:76-85, 1983
9. Dietz PE, Cooke G, Rapport JR, Silvergleit IT: Psychojargon in the psycholegal report: Ratings of judges, psychiatrists and psychologists. Behav Sci and Law, forthcoming
10. Pasewark RA, Pantle ML, Steadman HJ: Detention and the rearrest rates of persons found not guilty by reason of insanity and convicted felons. Amer J Psychiat 139:7-19, 1982
11. Steadman HJ, Keitner L, Braff J, Arvanites PM: Factors associated with a successful insanity plea. Unpublished manuscript
12. Pasewark RA: Insanity plea: A review of the research literature. J Psychiat and Law 25:357-401, 1981
13. Rogers R, Seman W, Stampley J: Individuals evaluated for insanity: A comparative study of social and demographic variables. Paper presented at the American Psychology-Law Society Biennial Conference, Chicago, October, 1983
14. Rogers R, Cavanaugh JL: Rogers criminal responsibility assessment scales. Illinois Medical J 160:164-69, 1981
15. Rogers R: Rogers criminal responsibility assessment scales (RCRAS) and test manual. Odessa, FL: Psychological Assessment Resources, Inc, forthcoming

16. Rogers R, Dolmetsch R, Cavanaugh JL: An empirical approach to insanity evaluations. J of Clin Psychol 37:683-87, 1981
17. Rogers R, Wasyliw OE, Cavanaugh JL: Evaluating insanity: a study of construct validity. Law and Human Behav, forthcoming
18. Rogers R, Seman W, Wasyliw OE: The RCRAS and legal insanity: A cross validation study. J of Clinical Psychol 39:554-59, 1983
19. Dixon W, Brown M: BMDP-79: Biomedical computer programs P-series. Los Angeles, CA, University of California Press, 1979
20. Rogers, Seman, Stampley: Individuals evaluated for insanity.   □