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## PREDICTING INSTITUTIONAL ADJUSTMENT AND RECIDIVISM IN DELINQUENT BOYS

JAMES E. COWDEN \*

In this study an attempt is made to determine which variables best predict the subsequent institutional adjustment of recently committed delinquent boys and, secondly, which variables best differentiate potential recidivists from non-recidivists on the basis of data available and easily accessible to staff personnel at the time of the boys' first commitment.

A number of investigators, including Ohlin and Reckless, have concluded that the use of actuarial or other objectively validated predictive indices provides an important basis for making decisions regarding parole success.<sup>1</sup> Some investigators, such as Hakeem, have concluded that predictions made upon the basis of actuarial data are more accurate than those made by professional personnel, such as probation agents.<sup>2</sup>

A number of potential predictor variables which seemed promising were thus analyzed in terms of their relationships with the criterion variables of institutional adjustment and recidivism. The specific variables eventually included within the formal design of the study included the following: age; home environment; seriousness of offenses; personality prognosis; length of stay in the institution; institutional adjustment; and recidivism.

We first hypothesized that the older a boy is at the time he is first committed to the institution, (a) the better his adjustment within the institution, and (b) the lower the probability of recidivism. This hypothesis is based in part upon a study by Glueck in which younger offenders were found to

have a greater recidivism rate than older offenders.<sup>3</sup> Another study by Plag also emphasized the importance of age as a variable in predicting success of Navy Recruits, with older recruits showing a better prognosis.<sup>4</sup>

Our second hypothesis states that the more serious the offenses which led to a boy's commitment, (a) the poorer his adjustment within the institution, and (b) the higher the probability of recidivism. This hypothesis is based in part upon Glueck's conclusions that more serious original offenses are significantly related to poorer post-parole adjustment.<sup>5</sup>

Our third hypothesis states that the better a boy's home environment, (a) the better his adjustment within the institution, and (b) the lower the probability of recidivism. This hypothesis is based upon the findings of the Gluecks, by Ohlin, and by Weeks that family background factors are important determinants of juvenile delinquency and recidivism.<sup>6</sup>

Our fourth hypothesis states that the more positive a boy's "personality prognosis," (a) the better his adjustment within the institution, and (b) the lower the probability of recidivism. This hypothesis is based upon studies by Hathaway and Monachesi and by the Gluecks in which the relationship between personality factors, institutional adjustment, and recidivism are stressed.<sup>7</sup>

Our fifth hypothesis states that the better the boy's institutional adjustment, the lower the probability of recidivism. This hypothesis is based upon studies by Glueck showing a clear positive relationship between adjustment within the

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The author wishes to express his appreciation to the staff of the Wisconsin School for Boys, and particularly to its Superintendent, for their assistance in the collection of the data for this research project.

<sup>1</sup> OHLIN, SELECTION FOR PAROLE (1951); RECKLESS, THE CRIME PROBLEM (1955).

<sup>2</sup> Hakeem, *Forecasting Parole Outcome by Parole Officers and Laymen* (Ph.D. dissertation, 1950).

<sup>3</sup> RECKLESS, *op. cit. supra* note 1.

<sup>4</sup> Plag, *Pre-Enlistment Variables Related to the Performance and Adjustment of Navy Recruits*, U. S. NAVY MED. NEUROPSYCHIATRIC RES. UNIT BUL. (San Diego, Calif. 1962).

<sup>5</sup> GLUECK, S., AFTER-CONDUCT OF DISCHARGED OFFENDERS (1945).

<sup>6</sup> GLUECK, S. & E., UNRAVELLING JUVENILE DELINQUENCY (1950); OHLIN, *op. cit. supra* note 1; Weeks, *Predicting Juvenile Delinquency*, 8 AM. SOC. REV. 136-137 (1943).

<sup>7</sup> GLUECK, *op. cit. supra* note 5; HATHAWAY & MONACHESI, ANALYZING AND PREDICTING JUVENILE DELINQUENCY (1953).

institution and post-release adjustment. Juvenile delinquents are considered to be a theoretically distinct group from adult criminals in that a more direct linear relationship is hypothesized between their behavior in the institution and their behavior outside of the institution.<sup>8</sup> As Ohlin has pointed out, this is unlike the case of adult criminals, in which those found to be best adjusted within the institution frequently have a poorer than average post-release prognosis.<sup>9</sup>

#### METHOD

Records of all boys committed to the Wisconsin State Department of Public Welfare as juvenile delinquents and received at the Wisconsin School for Boys at Waukesha, Wisconsin, during a period of one year, from December, 1956, to November, 1957, were used in this study. This included a total of 597 boys. However, we included only those boys in our study whose first commitment occurred during the year in question. Boys upon whom adequate information was not available were also excluded as subjects. Adequate information consisted of a complete report of the offenses leading to a commitment, a report on the family background by a social worker, a report on the boy's personality status by a member of the Clinical Services staff (psychologist or psychiatrist), and complete information on any subsequent commitments to any correctional or penal institution for a period of five years following the boy's original commitment as a delinquent. 270 boys met the above criteria and were included as subjects in this study. Names and other identifying information on each boy's records were then deleted, records were coded, and ratings for each variable were done separately to insure that each rating for any given subject would be independent of all others.

"Single Offenders" were defined as delinquents institutionalized in the period from December, 1956 to November, 1957, and who during the five-year follow-up period of this study never returned either to this or any other correctional institution. "Repeaters" were defined as those delinquents first institutionalized during the same period as above and who, during the five-year follow-up, returned one or more times either to this institution or to another correctional or penal institution.

The variable of age was measured by determin-

ing the age of each boy in months at the time of his first commitment. The variable of "seriousness of offenses" was measured through ratings made by the experimenter on a seven-point scale, with more serious offenses, e.g., armed robbery, aggravated uncontrollability, serious assaults, and rape rated at the upper end of the scale, with burglary and auto-thefts rated in the middle range, and non-serious fighting, drinking, petty theft, truancy, runaways from home, and minor vandalism rated at the lower end. Ratings of seriousness of offenses, were found to be moderately reliable, with an inter-rater reliability coefficient of .63 on a random sample of 76 randomly selected cases rated independently by another person.

"Home Environment" was measured through ratings made by the experimenter on a seven point scale, based upon reports of social workers within the institution and out in the field, with higher ratings indicating a more positive home environment. Boys rated at the upper end of this scale generally came from relatively stable homes with adequate parental controls, and generally constructive relationships among family members. Those falling at the lower end of this scale typically came from rather traumatic family backgrounds with hatred and rejection predominating. This scale was found to be moderately reliable as evidenced by an inter-rater reliability coefficient of .82 on 71 randomly selected cases rated independently by another psychologist.

"Personality prognosis" was measured through ratings made by the experimenter on a seven point scale, based upon reports of Clinical Services staff members (psychologists and psychiatrists). Boys at the upper end of this scale typically demonstrated above average amenability to change from delinquent to nondelinquent patterns of behavior, as determined through assessments of their motivation to change, as well as their current or potential maturity, judgment, and insight. These ratings were found to be moderately reliable, as shown by an inter-rater reliability of .76 on 71 randomly selected cases rated independently by another psychologist.

"Institutional adjustment" was measured through ratings made by the experimenter of conduct reports received by each boy per unit of time during the course of his stay at the institution. The unit of time used was the mean length of stay of all the boys included as subjects in the study. Appropriate corrections were made in "institutional adjustment" ratings for boys deviating in

<sup>8</sup> GLUECK, *op. cit. supra* note 5.

<sup>9</sup> OHLIN, *op. cit. supra* note 1.

either a positive or negative direction from the average length of stay. Runaways from the institution, refusal to obey orders, and serious fighting were rated at the upper end of the scale, while minor infractions of the rules, *e.g.*, nonserious fighting, taking an extra dessert, and smoking infractions, were rated at the lower end of the scale. The above ratings were then summed to give a total "institutional adjustment" score, ranging from zero (in the case of boys who received no conduct reports during their stay in the institution), to greater than 30 (for those boys presenting serious continued behavioral adjustment problems). These ratings were found to be moderately reliable, with an inter-rater reliability coefficient of .84 on 71 randomly selected cases rated independently by another person.

"Length of Stay" was measured in terms of the total number of days the boy spent at the institution. Recidivism was measured in terms of the number of times a boy returned either to the same institution (after being discharged) or committed to another institution, for a period of approximately five years following his first commitment. One point was given for each commitment to the Wisconsin School for Boys (or similar correctional institution for delinquents), and two points were given for each subsequent commitment to an adult penal institution. The total sum of points thus accrued represented the boy's recidivism rating. Because some of the variables involved in this study are ratings, with distributions deviating moderately from normal, we decided to apply more stringent tests of significance by halving the degrees of freedom in all tests of significance involving ratings.

#### RESULTS

The results shown in Table I (institutional adjustment as the criterion variable) confirm our original hypotheses in that the variables of age and personality prognosis, in that order of importance, were found to be most significantly related to institutional adjustment, with older boys and boys with more positive personality prognosis ratings displaying a better institutional adjustment. Each of these variables showed a clear linear relationship with the criterion variable. Contrary to our original hypotheses, seriousness of offenses and home environment were not found to be significantly related to institutional adjustment.

We next combined the variables of age and personality prognosis in an attempt to increase

TABLE I  
TESTS OF HYPOTHESES RELATING TO  
INSTITUTIONAL ADJUSTMENT

Institutional Adjustment:	Hypothesis	Correlation	Hypothesis Confirmed?
and: Age in Months	Sig Neg Corr	-.36***	Yes
Seriousness of Offenses	Sig Pos Corr	.00	No
Personality Prognosis	Sig Neg Corr	-.26**	Yes
Home Environment	Sig Neg Corr	-.10	No

\*\* Significant Beyond .01 level. \*\*\* Significant Beyond .001 level.

TABLE II  
MEAN INSTITUTIONAL ADJUSTMENT SCORES OF BOYS  
SEGREGATED AS TO AGE AND PERSONALITY  
PROGNOSIS

Age Group	Personality Prognosis Group	Mean Institutional Adjustment Score	Standard Deviation
1. High	High	1.69	4.44
2. High	Medium	2.24	2.92
	High		
3. High	Low		
	Medium	4.37	5.61
	Low		
4. Medium	High		
	Low	7.67	9.75
	Medium		
5. Low	Low	11.60	12.63

their utility. To do this, a frequency distribution of the ages of the sample of boys in this study was constructed, and cutting points were established at two points (15 years, seven months and 16 years, 10 months) which served to separate the boys into three approximately equal sized (low, medium, and high) age groups. Another frequency distribution of "personality prognosis" ratings was constructed in the same manner with boys rated 1-2 being placed in the "low" group, those rated 3-4 placed in the "medium" group, and those rated 5-7 placed in the "high" personality prognosis group. Mean institutional adjustment scores were then obtained for boys segregated into five groups (as shown in Table II) on the basis of their scores on the two predictor variables.

TABLE III  
TESTS OF HYPOTHESES RELATING TO  
RECIDIVISM

Recidivism and:	Hypothesis	Correlation	Hypothesis Confirmed
Age in Months	Sig Neg Corr	-.16*	Yes
Seriousness of Offenses	Sig Pos Corr	-.22**	No
Personality	Sig Neg Corr	-.28**	Yes
Home Environment	Sig Neg Corr	-.10	No
Institutional Adjustment	Sig Pos Corr	.29***	Yes

\* Significant Beyond .05 level. \*\* Significant Beyond .01 level. \*\*\* Significant Beyond .001 level.

TABLE IV  
MEAN RECIDIVISM SCORES OF BOYS SEGREGATED AS TO  
INSTITUTIONAL ADJUSTMENT AND PERSONALITY  
PROGNOSIS

Institutional Adjustment Group	Personality Prognosis Group	Mean Recidivism Score	Standard Deviation $\frac{1}{2}$
1. High	High	2.11	1.10
2. High	Medium	2.18	1.14
3. High	High		
4. High	Low		
5. High	Medium	2.27	2.00
6. High	High		
7. High	Medium	2.82	2.95
8. High	Low		
9. High	Low	3.45	3.54

A mildly curvilinear but clearly defined and relatively steep increase was found in mean institutional adjustment scores over the five groups (from LL to HH) segregated on the basis of age and personality prognosis. Group I (with degrees of freedom halved for the reasons given earlier) differed significantly in mean score from Groups IV and V ( $t$  significant beyond the .01 level), and from Group III ( $t$  significant beyond .05 level). Group II differed significantly from Group V (.01 level). None of the other mean differences was significant. Using both predictors combined in this manner thus resulted in a slight increase in predictive efficiency.

The results shown in Table III (recidivism as the criterion variable) confirm our original hypotheses

in that the variables of institutional adjustment, personality prognosis, and age (in approximately that order of importance) were found to be most significantly related to recidivism, with better behaved boys in the institution, boys with more positive personality prognosis ratings, and older boys, showing less recidivism. Contrary to our hypotheses, the variables of seriousness of offenses and home environment were not related in the manner predicted to recidivism. Home environment showed no significant relationship to recidivism, while "seriousness of offenses" was related significantly to recidivism, but in the opposite direction than hypothesized, *i.e.*, the more serious the initial offenses, the lower the rate of recidivism in our sample.

The possibility that boys from middle class, as opposed to lower socioeconomic class backgrounds may have tended to commit more serious offenses before being institutionalized was explored by comparing the mean "seriousness of offense" ratings for boys separated into three socioeconomic class levels (approximately corresponding to lower, lower-middle, and middle-class groupings), using the North-Hall scale of occupations.<sup>10</sup> Although there was an apparent trend in the data suggesting that middle-class boys institutionalized as delinquents committed more serious offenses than lower class boys, differences between the above three socioeconomic groups in mean seriousness of offenses were not quite significant. Comparing the same three socioeconomic groups as to whether they returned or not to another correctional or penal institution, the rates for the lower, lower-middle, and middle class groups were 65%, 67%, and 56% respectively, suggesting that they did not differ very significantly in comparative recidivism rates.

The relationship between institutional adjustment and recidivism was found to be essentially linear, verifying our original hypothesis that the behavior of adolescent delinquent boys both within and outside of the institution is reasonably consistent (much more so than one would expect in the case of adult criminals). The relationship between personality prognosis and recidivism was also found to be relatively linear.

Boys were next segregated into "high," "medium," and "low" groups of approximately equal size on the two variables (personality prognosis and institutional adjustment) most highly cor-

<sup>10</sup> REISSMAN, CLASS IN AMERICAN SOCIETY (1959).

related with recidivism. They were segregated as to personality prognosis in the manner previously described. They were segregated into three groups as to institutional adjustment by placing those with ratings of six and higher in the "low" group (showing the poorest institutional adjustment), those with ratings of 1-5 were placed in the "medium" group, and those with ratings of zero were placed in the "high" group (showing the best institutional adjustment). Mean recidivism ratings were then obtained for boys segregated into five groups (as shown in Table IV) by using both predictor variables combined.

In general, the results shown in Table IV reveal a mildly curvilinear, gradual increase in mean recidivism score over the five groups thus segregated on the basis of personality prognosis and institutional adjustment. Groups 1 and 2 (with degrees of freedom halved) differed significantly from Group 5 ( $t$  significant at beyond the .05 level), as shown in Table IV, but no other mean differences were significant. Recidivism was thus not predicted quite as well as was institutional adjustment, but using both predictors in combination did result in a slight increase in predictive efficiency, as opposed to using them separately.

#### DISCUSSION

Our results have demonstrated that with data available upon recently committed delinquent boys (during the first 3-4 weeks of their stay in the institution), significant and meaningful relationships have been uncovered between various predictor variables and the criterion variables of institutional adjustment and recidivism. Our results suggested in particular that older boys (when first institutionalized) who are initially rated as being more mature and more amenable to change will most likely adjust better than average in the institution. Prediction of institutional adjustment was rendered slightly more accurate using the variables of age and personality prognosis in combined form. Though the increase in predictive efficiency was not pronounced in this case, these results suggest some value in routinely determining the nature of the relationship not only between individual predictors and criterion variables, but also between these predictors as combined in various ways and the criterion variable. The method used here provides more information concerning the nature of the relationship between various predictor variables and the cri-

terion variable than would a simple correlational analysis because various kinds of nonlinear relationships in particular are uncovered through this process.

With reference to the prediction of recidivism, the one finding not originally predicted, *i.e.*, that boys who committed more serious offenses showed less recidivism than average, may be explained by the fact that these boys were also older than average when first committed. The variable of age likely accounts in part both for their more serious offenses and for their lower subsequent rate of recidivism.

Our results also showed some trends (not quite significant) suggesting that boys from higher socioeconomic backgrounds tended to commit more serious offenses leading to their institutionalization as delinquents. These data thus provide some tentative support for the conclusions of Goldman and others that middle class boys may not be institutionalized as delinquents quite as readily as lower class boys, unless their offenses are sufficiently serious as to make it imperative (through community reactions, etc.) that they be institutionalized. However, neither the ratings of socioeconomic status or "home environment" appeared to be significantly related to recidivism in our sample. These findings may be explained by the fact that we are dealing here with a population coming from a relatively restricted range of socioeconomic levels and home environments, which tends to reduce the predictive utility of these variables for a sample of delinquents who are already institutionalized.

We found an essentially linear relationship between personality prognosis and recidivism and between institutional adjustment and recidivism. When these variables were used jointly to predict recidivism, accuracy of prediction was increased slightly, but in general our ability to predict recidivism falls below our ability to predict institutional adjustment. These results clearly suggested that continued behavior problems in the institution are indicative of a basic rebelliousness and nonconformity which will tend to erupt sooner or later into renewed delinquent behavior. This points to the importance of accurate, reliable methods by which institutional adjustment could be rated before these ratings can be used routinely in conjunction with other variables as a means of predicting recidivism. In subsequent research we might most profitably focus upon the specific kinds of behavioral or personality problems which are

believed to be most predictive of recidivism, thereby attempting to increase our predictive efficiency in this area as well as increasing our knowledge as to the personality dynamics underlying the offender who continues to get into trouble as opposed to the one who does not.

#### SUMMARY

In this study differences in age, personality functioning, family background, nature of offenses, and behavior problems between potential recidivists and nonrecidivists at the time of their first commitment as delinquents were analyzed, an attempt was made to determine which variables

were most predictive of institutional adjustment and which were most predictive of recidivism.

Older boys (when first committed), and boys with more positive personality prognosis ratings, showed the fewest behavior problems in the institution, while older boys with more positive personality prognosis ratings, and in particular those who adjusted well in the institution, showed the lowest recidivism rate. Home environment was not found to be significantly related to institutional adjustment or recidivism. Some implications of the above findings were discussed, and some tentative recommendations based upon these findings were made.