

1942

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Recommended Citation

Robert M. Allen, Review of Parole Prediction Literature, A, 32 J. Crim. L. & Criminology 548 (1941-1942)

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A REVIEW OF PAROLE PREDICTION LITERATURE

Robert M. Allen

The study of parole success and failure is one of great significance as it is intimately concerned with the social and financial welfare of society. It is important that the community have some degree of assurance that men released on parole will not return to their former predatory mode of living.

If parole is to survive the storm of criticism levelled at it, efforts should be made to analyze objectively those factors which influence success or failure on parole. Only in the very recent past has the spotlight of research been centered on this method of post-custodial care. A review of the literature reveals how little attention has been given to this major problem.

The literature about parole points mainly in one direction—the parolability of inmates. The four major studies of the various elements affecting parole success and failure were reported by Burgess,² Tibbits,³ the Gluecks,⁴ and Vold.⁵

*Burgess' Study*⁶

A section of the detailed Burgess report attempts to answer two questions:

1. What specific facts about the pris-

oner and his past history as stated in the record could be related to the fact that he had, or had not, violated parole?

2. What, if any, additional facts significant in the light of his record on parole might also be secured?

One thousand records of men paroled from each of the state penitentiaries at Joliet and Menard, Illinois, and a similar number of parole records from the reformatory at Pontiac were studied in the light of twenty-two factors:

1. Nature of offense;
2. Number of associates in committing offense for which convicted;
3. Nationality of the inmate's father;
4. Parental status, including broken homes;
5. Marital status of inmate;
6. Type of criminal: as first offender, occasional offender, habitual offender, or professional criminal;
7. Social type;
8. County from which committed;
9. Size of community;
10. Type of neighborhood;
11. Resident or transient in community when arrested;
12. Statement of trial judge and prosecuting attorney with reference to recommendation for or against leniency;
13. Whether or not commitment was upon acceptance of lesser degree;
14. Nature and length of sentence imposed;
15. Months of sentence actually served before parole;
16. Previous criminal record;
17. Previous work record;
18. Punishment record in the institution;
19. Age at time of parole;
20. Mental age;
21. Psychiatric diagnosis;
22. Prognosis.⁷

role. Hanover, Sociological Press, 1931.

⁶ In 1928 the "Committee on the Study of the Workings of the Indeterminate Sentence Law and of Parole in the State of Illinois" consisting of Andrew A. Bruce, Ernest W. Burgess, and Albert J. Harno, submitted a report of its findings to the Hon. H. G. Clabaugh, Chairman of the Parole Board of Illinois.

⁷ Burgess, *op. cit.*, p. 221.

² Ernest W. Burgess. *The Workings of the Indeterminate Sentence Law and the Parole System*. Springfield: 1928. Ch. 28.

³ Clark Tibbits. *Success and Failure on Parole Can Be Predicted*. *Journal of Criminal Law and Criminology*. May, 1931, pp. 11-50. XXII.

⁴ Sheldon and Eleanor T. Glueck. *500 Criminal Careers*. New York: Knopf Co., 1930.

⁵ George B. Vold, *Prediction Methods and Pa-*

Each of the elements was analyzed with reference to violation of parole rates (percentages.) The statistical treatment of the data was simple. Those elements indicating a high violation percentage, and conversely, those tending toward low rates of violation, were set up as significant factors for parole failure and success respectively.

For the purpose of illustrating this technique, the factor of intelligence is abstracted from the report:

TABLE I⁸
INTELLIGENCE AS A FACTOR
INTELLIGENCE IN RELATION TO RATE OF
PAROLE VIOLATION

Intelligence Rating	Violation Rate by Institution		
	Pontiac	Menard	Joliet
All persons average.....	22.1%	26.5%	28.4%
Very inferior intelligence.	24.3	25.0	21.3
Inferior intelligence	14.7	27.1	23.4
Low average intelligence.	22.4	23.2	31.4
Average intelligence	17.1	23.5	32.0
High average intelligence.	19.8	40.0	24.1
Superior intelligence	26.8	34.8	16.7
Very superior intelligence	9.5	40.0	23.8

A Menard inmate with an intelligence classification of "Average Intelligence" (Violation rate—23.5%) would be credited with a favorable point since the rate of violation is 2.5% below the 26.5% violation average for that group. Another inmate of that institution with a rating of "Very Superior Intelligence" would receive an unfavorable point, since the violation rate of this classification is 13.5% above the violation average. The same procedure is followed throughout the entire list of twenty-one factors.

In constructing the prognostic table all factors were assigned an equal

weight, and each was considered commensurable in terms of influence upon parole outcome. On this point Burgess wrote:

... twenty-one factors of the twenty-two were selected by which each man was graded, in comparison with the average for the 1,000 cases, upon the probabilities of making good or failing upon parole. Since there were twenty-one factors, it was theoretically possible for a man to be in a more favorable group than the average on all twenty-one factors, or upon twenty factors, or upon nineteen factors, and so on down the scale to having a better position than the average upon three factors, two factors, one factor, and upon no factor.⁹

The above was graphically presented in the following table.

TABLE II¹⁰
EXPECTANCY RATES OF PAROLE
VIOLATION AND NON-VIOLATION

Points for Number of Factors Above the Average	Group	Expectancy Rate for Success or Failure	
		Percent Violators	Percent Non-Violators
16 to 21.....	A	15%	98.5%
14 to 15.....	B	2.2	97.8
13	C	8.8	91.2
12	D	15.1	84.9
11	E	22.7	77.3
10	F	34.1	65.9
7 to 9	G	43.9	56.1
5 to 6	H	67.1	32.9
2 to 4	I	76.0	24.0

In applying this scheme each of the inmates was scored according to the categorical interpretation of the factors presented in the individual case records. If there were sixteen or more favorable elements (determined by the pre-established violation rates), then this man could be accorded a much better chance of completing his parole period than one whose record indicated only two to four favorable influences

⁸ Ibid, Table XXI, p. 231.

⁹ Ibid, p. 247.

¹⁰ Ibid, Table IV, p. 41.

out of the possible twenty-one. However, it must be pointed out that the degree of reliability of these factors as differentiating elements was not statistically calculated by Burgess when he set up this expectancy table. Another comment on this investigation is that the prediction schedule was based upon the combined records of state prison and reformatory parolees. The wide differences in ages, number of previous offenses, and extent of previous prison contacts offer serious objections to the advisability of considering these two groups of inmates as comparable.

Tibbits' Study

Three years later Tibbits studied the cases of three thousand parolees from the Illinois State Reformatory. The group was divided into two classes; in the first were two thousand boys whose maximum parole period was one year. The second class included one thousand boys who had rounded out one year on parole although the full period extended beyond that one year. Thus, if a boy in the latter group violated his parole one day after the year had been completed he was still classified as a non-violator in view of the one-year study period set up as one of the criteria of success.

On the basis of twenty-two factors Tibbits attempted to ascertain the correlation between the presence or absence of the individual factors and outcome on parole. Eighteen study factors were borrowed from Burgess; the remaining four added by Tibbits were:

1. Type of neighborhood to which the inmate was paroled;
2. His first job on parole;
3. His last work assignment in the institution; and
4. Use of alcohol (dropped because of little significance).¹¹

TABLE III¹²

COEFFICIENT OF CORRELATION BETWEEN
RECORD ON PAROLE AND VARIOUS
OTHER FACTORS

<i>Factors</i>	<i>Correlation</i>
1. Working or not working when arrested	+.043
2. Lesser plea or no lesser plea....	-.068
3. Resident or transient.....	+.078
4. 11 months or more than 11 months	+.101
5. Favorable or not favorable prognosis	+.104
6. Skilled workman or not skilled workman	+.137
7. Associates or no associates.....	+.138
8. No punishment or punishment in prison	+.150
9. No previous criminal record or previous criminal record.....	+.153
10. First offender or recidivist.....	+.179

This dichotomous correlation of ten elements with the parole record was interpreted by Tibbits as being highly significant despite the low numerical figures ranging from .043 to .179.

The second half of Tibbits' results followed closely the pattern of the Burgess study. Violation of parole rates (percentages) were obtained for each of the twenty-two factors. A binary scale was established consisting of "favorable" and "unfavorable" points. The procedure in arriving at this schedule was as follows: first the average violation rate for all the factors combined was secured; then each individual factor was assigned to the "favorable point" side of the scale if its violation rate was five percent below the average. Conversely, if its vio-

¹¹ Tibbits, *op. cit.*, p. 41.

¹² *Ibid.*, p. 43.

lation rate was five percent above the average it was placed on the "unfavorable point."

A table of expectancy rates of violation in terms of "favorable" and "unfavorable" points was set up. The chief difference between this study and Burgess' work was the form of the prediction scale. The latter allowed only for the consideration of favorable factors, while Tibbits considered both the favorable and the unfavorable elements in the prisoner's life. Both investigations arrived at practically the same conclusions. The Tibbits' study had the advantage of concerning itself only with reformatory parolees; however, many of the factors included in the research, such as "type of criminal" and "social type" called for subjective interpretation. Tibbits gave the most valid criticism of this study in an article published one year later. In this project¹⁵ Tibbits reclassified 907 of the 3,000 cases utilized in the previous investigation. The second classification (in 1928) was made for the purpose of testing the rigidity of the class boundaries, and to test the reliability of the factors used in parole prediction. Sixteen of the original twenty-two factors were used. "A correlation of .763 was found between the first and second classifications, low enough to give evidence of serious limitations at some point or points in the study."¹⁴ More than half of the total number of factors studied had originally been classi-

fied on the basis of "incomplete data, lack of certainty or definitive character of the data, and the necessity of interpretation."¹⁵ Tibbits concluded with a plea for a more scientific classification system in order that parole prediction could start from this point on a firm basis. "Increased reliability," wrote Tibbits, "will be correlative with the development of prediction."¹⁶

The Gluecks' Study

Because of the inadequacies in previous investigations, the Gluecks undertook to study 510 prisoners released from the Massachusetts Reformatory. Their plan was to select cases which afforded a five-year post parole test period in order to gauge the process of reformation alleged to have been initiated in the reformatory. They reasoned that adequate follow-up five years after the expiration of the parole period would give a somewhat truer picture than that obtained by the previous studies.

The statistical schedules and treatment were in general divided into four sections: (1) the history of the youths prior to their sentence to the reformatory, including certain facts about their family background; (2) the history of the young men while they were in the institution; (3) their parole history; (4) their post-parole history. . . .

While certain statistical devices were employed, their use was limited to a degree consistent with the base objectives of the study. Where comparable and reliable statistics for the general population were obtainable, they were, of course, utilized.¹⁷

¹³ Clark Tibbits, *The Reliability of Factors Used in Predicting Success or Failure in Parole*. *Journal of Criminal Law and Criminology*, March, 1932, pp. 844-853.

¹⁴ Tibbits, *op. cit.*, p. 847.

¹⁵ *Ibid.*, p. 851.

¹⁶ *Ibid.*, p. 853.

¹⁷ Glueck, *op. cit.*, p. 8.

The actual task was to check on the entire reformatory system as reflected in the ultimate success or failure of the 510 parolees whose terms expired between 1921 and 1922. Vold summarized and characterized this study in the following words:

Though this is a far more intensive and painstaking study than that of Burgess, the fundamental method is basically the same. The information about the men was reduced to quantitative form under some fifty categories with appropriate subclasses for each category. The proportion of men violating in each subclass was then determined much as in the Burgess study. But where Burgess made use of all twenty-one factors in arriving at his prediction tables, Glueck sought to eliminate those that seemed of little importance as reflected by low coefficients of contingency when compared with conduct during the post-parole period.¹⁸

The prognostic table was comprised of seven factors as follows:¹⁹

1. Industrial habits preceding sentence to the reformatory.
2. Seriousness and frequency of pre-reformatory crime.
3. Arrest for crimes preceding the offense for which sentence to the reformatory was imposed.
4. Penal experience preceding reformatory incarceration.
5. Economic responsibility preceding sentence to the reformatory.
6. Mental abnormality on entrance to the reformatory.
7. Frequency of offenses in the reformatory.

The Gluecks drew up a prognostic table "as a possible model for parole boards in determining which men to release on parole, and in obtaining some true conception of the probable length

of parole supervision needed in different cases."²⁰

The individual's score was obtained by adding the percentages of total failures in the different subclasses in which he belonged on these seven factors. The lowest possible score was 274; the highest, 492. The chances for success or failure in the post parole period is graded according to point distribution. Vold criticized this method as follows:

Examination of the seven factors used in their parole prediction table makes it clear that there is a heavy weighting of the factors of post criminality. Four out of the seven factors have reference to the violation of the law or the prison regulations. May not this be giving too much weight to the assumption 'once a criminal always a criminal'? In the matter of selecting only the important factors, the question boils down to this: will the summation of factors give results more reliable than the complete exclusion of these factors? In effect, the Glueck's method assumes that the answer is negative. . . .²¹

Vold's Study

Later Dr. George B. Vold undertook the study of the parole problem recognizing the principle of the cumulative effect of individually insignificant factors. The object of the investigation: was to answer these questions:

What information, in the parole records accumulated by the parole board, is important as an indicator of probable conduct on parole? How may the board know, in any given case, whether it is taking a serious chance or acting on a relative certainty in the matter of an inmate's probable conduct on parole? . . . If, from the study of a man's past life, the question of his behavior on parole can be consistently answered in terms of probability, then it would seem that a device of great practical value is

¹⁸ Vold, *op. cit.*, p. 17.

¹⁹ Glueck, *op. cit.*, pp. 281-283.

²⁰ *Ibid*, this quotation and table from p. 286.

²¹ Vold, *op. cit.*, p. 18.

at hand for the better discharge of the parole function.²²

The cases studied were divided into 542 parolees from Minnesota State Prison and 652 reformatory boys who were under supervision from July 1, 1922 to June 30, 1927, and had since been discharged. Forty-nine factors were classified as:

- I. Factors involving the circumstances and conditions of the trial and commitment;
- II. Factors involving circumstances and conditions of the social background;
- III. Factors involving the traits, habits, and characteristics of the individual;
- IV. Factors associated with the period of stay in the institution;
- V. Factors associated with the period on parole.

The elements in each of the five main divisions were analyzed in terms of outcome on parole. Vold concluded that none of the factors considered were of outstanding importance in connection with parole outcome. He then reclassifies 195 cases and was not satisfied that his original classifications were entirely correct. However, on the basis of the obtained data, contingency coefficients between the individual factors and outcome on parole gave some indication for prediction purposes.

Vold utilized the techniques of both Glueck and Burgess in the construction of prediction tables. The bases of each of the two modes of prediction scales were the following seventeen factors, which, of the entire list of forty-nine, had C²³ values above .100:

TABLE IV²⁴

CONTINGENCY COEFFICIENTS IN RANK ORDER, OBTAINED IN COMPARING "OUTCOME ON PAROLE" WITH 34 PRE-PAROLE FACTORS IN THE COMBINED MINNESOTA STATE PRISON AND STATE REFORMATORY GROUP, 1922-27

C Obtained	Pre-parole Categories Compared with "Outcome on Parole"
.283	Previous criminal record
.241	Marital status at time of offense
.237	County from which received
.227	Prison punishment record
.214	Social type of inmate (six place classification)
.208	Work habits prior to conviction
.208	Occupations at or before conviction (six place scale)
.204	Nature of crime for which convicted
.200	Size and type of community in which offense was committed
.183	Size and type of community in which inmate was brought up
.179	Habits and character; whether honest or dishonest
.173	Habits and character; whether ambitious or lazy
.149	Habits and character; use of drugs
.145	Institute of Child Welfare classification of occupation
.145	Habits and character; use of liquor
.142	Mobility of inmate before conviction
.139	Estimate of inmate's mentality (by prison officials)
.103	Home condition (whether parents are living, dead or separated)

The most favorable comment to be offered for this study was Vold's own criticism. After applying his expectancy table to a new group of men paroled between 1927 and 1929, he concluded:²⁵

The general trend would seem to point to the conclusion that reasonable accuracy in applying prediction tables to actual parole practice may be expected. If further research should bear this out, it would seem that application of prediction techniques should be among the next important developments in the administration of parole.

Laune²⁶ described a new technique with which he was experimenting for

²² *Ibid.*, p. 5.

²³ Coefficient of contingency between the factor and outcome on parole. Most of the coefficients are based on a four, five, or six-fold classification with maximum C values between .82 and .91.

²⁴ Vold, *op. cit.*, Table XXVIII, p. 84.

²⁵ George B. Vold, Do Parole Prediction Tables Work in Practice? *Publication of the American Sociological Society*, XXV, May, 1931.

²⁶ Ferris F. Laune, A Technique for Developing Criteria of Parolability. *Journal of Criminal Law and Criminology*, XXVI, May, 1935, pp. 41-45.

use in prediction schedules. He focused attention to the ability of prisoners to size-up their cell-mates and was attempting to arrive at some method of analyzing prisoners in much the same manner as their cell-mates did. He enlisted the cooperation of two prisoners in the experiment. A questionnaire based on these prisoners' "hunches" was prepared and sixty other inmates were pledged to answer truthfully. Their replies served as the control for the responses of the remainder of the Illinois State Prison population. Vold's recent review of this project stated in part:

Sympathy with the efforts to quantify and objectify methods in criminology must not be permitted to conceal the fact that the whole basis of Laune's elaborate analysis rests on the unverified 'guesses' or 'hunches' about the probable future criminality of prison inmates as expressed by two fellow convicts . . . as a method of predicting criminality it is far fetched and elusive.²⁷

Summary and Evaluation of the Studies

Burgess devised a scale purporting to predict the parole outcome of inmates. He regarded this approach to the parole problem as very significant in view of the criticism and responsibility heaped on the parole authorities. The opportunities for further research along these lines was seized by Tibbits. As a result of his investigations he concluded that certain factors did play important roles in inmates' lives but that these factors were not equal in influence. Instead of solely predicting parolability, he demonstrated the need for

a scientific classification system in the prisons.

The Gluecks formulated a prognostic table for use in prediction and emphasized the importance of *individual* factors to parole outcome. The scales they devised were an introduction to the scientific administration of criminal justice. The value of the exhaustive study of the inmate's life prior to his release was indicated by Vold. He concluded that the cumulative effect of separate, insignificant factors showed sharp differences between parole violators and non-violators.

In general these investigations point to the conclusion that there are two major divisions of the parole problem: First, the length of the period of incarceration, and, Second, the conditions under which an inmate may continue on parole. The first specific problem has been the province of these studies, with incidental light thrown on the second.

The critical reader may no doubt note some shortcomings and contradiction in these studies. Research in parole is comparatively new and techniques for its exploration have not been well defined. The chief criticism is that the factors considered in these studies lent themselves too much to subjective interpretation. In handling social problems, however, it is difficult to reduce all the data to objective and quantitative formulae.

²⁷ George B. Vold, A Review in the *Journal of Criminal Law and Criminology*, XXVIII, May-June, 1937, pp. 151-152.