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# FACTORS FOR PREDICTING PAROLE SUCCESS

HOWARD G. BORDEN<sup>1</sup>

(Tables of original data from which the following article is drawn are available at the author's office for those who may be interested in them. They are too voluminous to be published here.)

Inspired by the article by Professor Sam Warner<sup>2</sup> on the results of parole from the Massachusetts Reformatory and by the critique by Hornell Hart,<sup>3</sup> the writer decided to essay the subject. With the assistance of R. M. Beechley, the writer has compiled a considerable weight of statistics on factors which might be considered as possible determinants of parole success. This was a study made with data at hand on two hundred and sixty-three consecutive paroles, ages seventeen to thirty-five, from a reformatory for young men. These boys were paroled between July 1, 1923, and June 30, 1924. This data was collected August 1925, from both the institution and from the parole folders of the boys. Needless to say, a very large percentage of the information in the folders could not be handled statistically, as it was in descriptive form. The amount of information in each individual case was considerable. No attempt was made to devise special instruments, as a part of the study was really aimed to find the value of the present statistics. The study was attempted not so much with the idea that a complete solution would be had as with the feeling that any tangible presentation was better than none at all.

Appendix A is the table of original data showing the factors used, which are as follows:

1. Age at parole.
2. Nativity; N. (Native White), F. P. (Foreign Parents), F. B. (Foreign Born), C (Colored).
3. Mental Age at parole.
4. Diagnosis of intelligence; F. (Feeble-minded), I. (Inferior), A. (Average), S. (Superior).
5. Number of days lost in the institution for infractions of discipline.
6. Nature of offenses committed in the institution; P. (Perfect), M. (Minor), O. (Occasional serious), C. (Chronic).

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<sup>2</sup>Journal of Criminal Law and Criminology, XV, 2, Aug., 1924.

<sup>3</sup>Journal of Criminal Law and Criminology, XV, 2, Aug., 1924.

7. Industrial rating when paroled—a five step rating with 5 at the upper end.

8. Training in the institution; M. (Assigned to maintenance), T1, T2, T3 (Trade course in the order of their difficulty, the easiest being T1), P. (Production work without training or clerical work).

9. Literacy at admission by grades.

10. Literacy at parole by grades.

11. Parole occupation recommended by the psychologist; U. (Unskilled), F. (Farm or factory), H. (Trade helper), A. (Trade apprentice), J. (Journeyman), C. (Clerk).

12. Temperamental traits as judged by the psychologist; A. (Amenable), A. (Active), T. (Trustworthy), S. (Stable), U. (Uncooperative), P. (Passive), U. (Untrustworthy), U. (Unstable), D. (Defective delinquent).

13. Judgment as shown by parole plans; G. (Good), F. (Fair), P. (Poor), L. (Plans lacking).

14. Psychologists' prognosis of success; G. (Good), F. (Fair), P. (Poor), R. (Recidivism probable).

15. Months employed before this arrest.

16. Months employable before this arrest.

17. Number of previous arrests.

18. Times on probation.

19. Number of previous commitments.

20. Times in State Home for Boys.

21. Times in this reformatory.

22. Months from reception to parole.

23. Approximate pay per week while on parole. Maintenance is counted as \$10 per week.

24. Was the parole job allied to the institutional training? A. (Allied), N. (Not allied).

25. Was the parole job at the level of the ability of the boy? L. (At his level), B. (Below), A. (Above).

26. Half weeks per month worked while on parole; a rough percentage of time worked.

27. Location of parole; U. (Urban), R. (Rural).

28. The criterion of parole success; S. (Still succeeding on parole over a year after release from the institution. Parolees are visited about every other month routinely and more frequently in special cases. Some of the parolees in this class have been missing and declared delinquent for failure to notify the parole officer of a change of address. When found, however, they have apparently been behaving and have been restored to regular parole.), 2 (Twelve parolees either completed their parole successfully or died during it. Since the time involved is less than the time of the other cases these are not counted as full successes although they well may be. At least none were returned to the institution.), 3 (Missing. Many

parolees are temporarily missing and later restored and succeed. Many are never relocated and doubtless a fair percentage of these are never again arrested for crime. Being missing itself involves a violation of parole, so that these cases are a borderline between success and failure.). M. (Returned to this or some other institution for a misdemeanor), F. (Returned for a felony or high misdemeanor).

### CORRELATIONS WITH SUCCESS

Let us now examine the direct correlations with success. Appendix B is a tabulation of the interrelations with success. The table below shows the coefficient of correlation with parole success using no correction for coarseness of distribution.

#### CORRELATIONS WITH PAROLE SUCCESS

Age—Older .....	.021
Nationality—Native White.....	.047
Mental Age—Lower M. A. ....	.131
Intelligence—Lower .....	.164
Time lost for offenses in inst.—More.....	.027
Conduct in inst.—Better.....	.030
Industrial rating—Lower.....	.138
Grade of training in institution—Higher.....	.006
Literacy at admission—Lower .....	.085
Literacy at parole—Lower .....	.072
Skill required for occupation recommended—Less.....	.033
Amenable vs. Uncooperative—Amenable.....	.118
Active vs. Passive—Passive.....	.094
Stable vs. Unstable—Stable.....	.023
Defective delinquent vs. not—Defective delinquent.....	.048
Judgment in parole plans—Good.....	.058
Psychologist's prognosis—Favorable.....	.161
Percentage of time employed before—Less time.....	.115
Arrests—Fewer .....	.105
Probations—Fewer .....	.072
Commitments—Fewer .....	.202
Times at Boys' Home—Fewer.....	.068
Times at this institution—Fewer.....	.062
Months in this institution—Longer.....	.011
Pay on Parole—More.....	.046
Parole job allied to training—Not allied.....	.011
Level of job vs. ability—Above.....	.018
Times worked on parole—Steadier.....	.419
Urban vs. Rural—Rural.....	.054

Several of the factors can probably be grouped and considered as single factors. Factors which measure intelligence can be grouped as follows:

Mental Age.....	.131
Intelligence .....	.164
Industrial rating.....	.138
Literacy admission .....	.085
Literacy Parole .....	.072
Skill for job.....	.033

The entire group gives evidence that the lower the intelligence the more likely a boy is to succeed. The rather radical conclusion that intelligence has a negative correlation with success is partially borne out by independent investigations. Carl Murchison points out (*JOURNAL OF CRIMINAL LAW AND CRIMINOLOGY*, August, 1924) that the intelligence level of prisoners in the penal institutions is superior to that found in the army tests. It seems highly desirable that one exact investigation should be made on this subject, extending if possible outside of the institutional group, for if this conclusion is confirmed our whole train of thought must be revised.

The idea of less previous delinquency is measured by several factors and simply but amply confirms judgment in this case. These factors are:

Fewer arrests .....	.105
Fewer probations .....	.072
Fewer commitments .....	.202
Fewer times at Boys' Home.....	.068
Fewer times at this inst. ....	.062

The personality traits are in accordance with our expectations except that "Defective Delinquents" succeeded better than those not so rated. This is probably due to confusion in the mind of the psychologist between feeble-mindedness and emotional stability. It is true that the correlation is so small that chance might readily reverse it, but by no chance could a reversal be made so positive as to be very significant.

The reversal of expectations in the question of alliance of the parole job with the training in the institution is probably due to the intercorrelations with intelligence. The more intelligent are trained and fitted to jobs and the more intelligent fail, therefore the trained fail. We do find a reversal of this under the heading of "Grade of training in the institution." Both correlations are within a half a probable error of each other, so that no explanation is required except for the inadequacy of numbers to determine so small a trend. A computation of the partials shows a slight trend in favor of training.

There is a slight tendency for the older boys to succeed. This may be due to the general steadying down after the critical period of puberty.

The steadier work on parole is almost a part of the criterion and therefore correlates comparatively highly. It is not usable for prediction.

The rural location is found more favorable for parole success, as would have been expected. On the other hand, this may also be

due to intercorrelation with intelligence. The less intelligent cases are generally recommended for farms.

Longer time in the institution seems to show a slight tendency under the following headings:

More time lost.....	.027
Longer in the inst. ....	.062

Although this is insufficient to be conclusive it does bear out popular opinion that longer terms are more effective.

If we endeavor to select variables for their predictive value we may choose "Previous commitments," "Psychologist's prognosis," and "Diagnosis of intelligence." These show the following intercorrelations, partials, and multiple with success:

	1	2	3	4
	Diagnosis	Prognosis	Commitments	Success
1. Diagnosis .....	.....	+2357	-1008	-1644
2. Prognosis .....	+2357	.....	-5671	-1606
3. Commitments .....	-1008	-5671	.....	-2019
4. Success .....	-1644	-1606	-2019	.....
$\beta_{14.23}$ =	-1191.			
$\beta_{24.13}$ =	-3742.			
$\beta_{34.12}$ =	-4261.			
$r_{4.123}$ =	+4071.			

This indicates that prediction is possible with some slight degree of accuracy even with the data at hand, but also shows that much of the field of crime is not covered statistically in this data. The environment before commitment is untouched and that at parole but lightly. Much more study into the effects of environment is desired to round out a complete study into factors that will lead to parole success. The temperamental traits are seen to show a noticeable correlation with success and would doubtless be improved if these traits were more carefully defined and an attempt made to express them by degree rather than by opposites.

The weakest part of this study is in the criterion. Success deserves many subdivisions not available. Failure should be measured by something less crude than "Missing," "Minor offenses," and "Felonies." The damage to the community may be far more from a dozen small robberies than from one big one and the criminal tendency is unquestionably larger.

## APPENDIX B

	S	Success on parole			
		2	3	M	F
<b>Age</b>					
17 or less.....	7	1	3	2	3
18 .....	20	1	5	5	6
19 .....	15	..	4	3	4
20 .....	24	3	5	3	7
21 .....	17	..	9	1	8
22 .....	13	1	2	2	7
23 .....	11	3	2	..	1
24 .....	8	..	1	1	2
25 .....	6	3	5	..	..
26 or more.....	16	..	10	3	6
<b>Nationality</b>					
Native White.....	51	2	18	9	15
Foreign parents .....	51	6	12	6	16
Foreign born .....	17	..	7	1	2
Colored .....	18	4	9	4	11
<b>Mental Age</b>					
8 or less.....	3	..	..	1	..
9 .....	8	..	5	2	..
10 .....	21	2	5	2	2
11 .....	31	4	5	3	7
12 .....	29	3	9	3	13
13 .....	23	1	11	4	14
14 .....	14	2	7	3	8
15 .....	4	..	3	2	..
16 .....	2	..	1	..	..
17 .....	2	..	..	..	..
<b>Diagnosis</b>					
Feeble-minded .....	17	1	5	4	1
Inferior .....	48	4	12	4	8
Average .....	64	7	24	10	32
Superior .....	8	..	5	2	3
<b>Days lost in inst.</b>					
0- 49 .....	77	7	27	12	26
50- 99 .....	22	2	6	2	8
100-149 .....	12	..	6	1	4
150-199 .....	8	1	3	1	1
200-249 .....	8	..	..	..	2
250-299 .....	2	..	..	1	2
300-349 .....	2	..	..	..	..
350-399 .....	3	..	3	1	..
400-449 .....	1	1	..	..	..
450 or more.....	2	1	1	2	1
<b>Nature of Offenses</b>					
Perfect .....	35	3	16	6	6
Minor .....	42	4	9	5	15
Occasional serious.....	35	3	16	6	17
Chronic .....	25	2	5	3	6
<b>Inst. rating at parole</b>					
Common labor.....	11	..	5	3	1
Slightly skilled.....	56	6	16	5	9
Average trade skill.....	50	5	16	11	28
Highly skilled.....	18	1	9	1	5
Professional ability.....	2	..	..	..	1

Training in inst.					
Maintenance .....	53	5	23	12	17
Trade course slightly skilled.....	34	1	4	2	3
Trade course semi-skilled .....	26	2	8	3	15
Trade course average skilled.....	3	..	1	..	1
Clerical or production.....	21	4	10	3	8
Literacy on adm.					
0 .....	15	1	4	4	1
1 .....	2	..	..	..	1
2 .....	8	..	2	..	2
3 .....	8	1	5	1	1
4 .....	20	2	4	3	5
5 .....	22	2	5	2	13
6 .....	25	3	13	2	5
7 .....	23	3	5	4	13
8 .....	9	..	6	2	2
9 .....	5	..	2	2	1
Literacy on parole					
0 .....	6	1	2	2	1
1 .....	1	..	1	..	..
2 .....	4	..	1	..	..
3 .....	5	..	2	..	1
4 .....	17	1	3	2	3
5 .....	17	2	3	1	7
6 .....	32	5	7	3	8
7 .....	17	2	9	2	10
8 .....	17	..	11	5	6
9 .....	10	1	4	2	5
Occupation recommended					
Unskilled .....	25	5	8	3	5
Helper .....	37	1	7	7	12
Apprentice .....	28	3	7	4	12
Journeyman .....	6	..	3	..	2
Clerk .....	5	..	5	2	1
Farm or Factory.....	20	3	14	2	9
Temp. traits					
Amenable .....	91	5	29	13	21
Uncooperative .....	46	7	17	7	23
Active .....	53	3	25	6	23
Passive .....	84	9	21	14	21
Trustworthy .....	55	4	10	9	8
Untrustworthy .....	82	12	36	11	36
Stable .....	71	5	14	10	19
Unstable .....	66	7	32	10	25
Defective delinquent.....	18	3	7	3	3
Not defective delinquent.....	119	9	39	17	41
Parolee's judgment parole plans					
Good .....	10	2	..	..	2
Fair .....	73	4	28	11	27
Poor .....	34	3	10	8	9
No plans.....	9	3	5	1	4
Psychologist's prognosis					
Good .....	9	..	3	..	..
Fair .....	24	5	5	1	7
Poor .....	72	..	25	14	23
Probable recidivism.....	21	7	11	5	12



## Percentage time worked before commitment

0-20 .....	2	..	1	..	1
20-40 .....	9	..	1	..	6
40-60 .....	13	..	8	3	6
60-80 .....	25	1	6	1	6
80 or more.....	39	2	9	6	8

## Number of previous arrests

0 .....	27	..	5	1	3
1 .....	26	3	7	5	8
2 .....	18	..	10	4	6
3 .....	22	3	10	2	8
4 .....	20	1	5	1	5
5 .....	6	1	2	1	3
6 .....	5	3	1	2	3
7 .....	1	1	..	1	6
8 .....	1	..	1	2	1
9 or more.....	11	..	5	1	1

## Times on probation

0 .....	63	4	21	9	16
1 .....	47	5	18	6	17
2 .....	21	1	7	3	1
3 .....	4	2	..	1	2
4 .....	2	..	..	1	2

## Previous commitments

0 .....	72	5	18	6	14
1 .....	29	..	7	7	5
2 .....	19	3	13	2	16
3 .....	12	1	5	4	6
4 .....	5	2	2	1	1
5 .....	..	1	..	..	1
6 .....	..	..	..	..	1
7 or more.....	..	..	1	..	..

## Times in Boys' Home

0 .....	104	8	38	16	31
1 .....	21	1	3	2	6
2 .....	8	1	6	..	4
3 .....	3	2	1	1	2
4 .....	1	..	..	1	1

## Times in this reformatory

0 .....	111	7	35	15	31
1 .....	21	1	11	2	12
2 .....	4	2	..	2	1
3 .....	1	2	..	1	..

## Months served this commitment

0- 6 .....	6	1	3	2	3
6- 9 .....	1	..	5	2	1
9-12 .....	21	2	5	..	4
12-15 .....	34	4	11	5	12
15-18 .....	28	2	11	3	7
18-21 .....	31	1	6	4	11
21-24 .....	5	..	..	..	5
24-27 .....	4	..	1	1	..
27-30 .....	3	1	1	..	..
30 or more.....	4	1	3	3	1

Pay while on parole in dollars per week. Maintenance is counted as \$10 a week					
\$ 6-\$11 .....	6	1	2	..	1
12- 17 .....	23	3	12	3	7
18- 23 .....	65	6	26	13	27
24- 29 .....	28	1	5	1	5
30- 35 .....	9	..	1	1	2
36- 41 .....	4	1	..	1	..
42- 47 .....	..	..	..	..	..
48- 54 .....	1	..	..	..	..
55 or more.....	..	..	..	..	1
Parole job					
Not allied to inst. training.....	99	5	37	12	31
Allied .....	35	7	8	8	13
Job level vs. ability					
Below .....	20	1	10	4	6
Level .....	106	11	36	14	37
Above .....	10	..	..	2	1
Time worked on parole, half-weeks					
0 or 1 .....	1	1	13	4	4
2 or 3 .....	1	..	5	2	3
4 or 5 .....	8	3	3	3	9
6 or 7 .....	25	1	5	1	11
8 or more .....	101	6	15	10	14
Parole location					
Rural .....	33	1	13	5	6
Urban .....	102	11	33	15	38