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A COMPARATIVE STUDY OF THE INTELLIGENCE OF 399 INMATES OF THE INDIANA REFORMATORY AND 653 MEN OF THE UNITED STATES ARMY

CALVIN P. STONE<sup>1</sup>

INTRODUCTION

Clinical psychologists who have in recent years studied the general intelligence of adult inmates of reformatories and prisons have, in general, concurred in the conclusion that differences in the intellectual processes revealed by tests of general intelligence are of a quantitative rather than a qualitative character. In respect to choice of tests and the acceptance of standards for the ascertainment of this quantitative difference there is much less uniformity of agreement. There is also great disparity of opinion as to the relative weight of the intelligence factor in relation to other causative factors of crime and delinquency.

When one attempts to discover the cause of this disagreement one invariably finds a conditioning factor which has been, from the very beginning of reformatory testing, a constant source of divergence in opinion. This conditioning factor is the lack of accurate standards of tested ability of non-delinquent adults of the general population. The wide application of psychological tests in the army has shown quite conclusively that standards of intelligence heretofore accepted for the general adult population are untenable. The standards were too high. In the case of the Binet tests, the standard denoting the mental age of the average adult was quite uniformly reduced by clinical examiners by an amount varying from one and one-half to two years. The standards used for the elimination of mental defectives totally unfit for military service were one or more years below standards frequently, if not generally, advocated for the detection of mental defectives who, because of social incompetence, should be given permanent custodial care.

In this connection it must be noted, however, that certain clinical examiners have anticipated the necessity of lowering appreciably the standards for the average man of the adult population; also, that field workers have from time to time furnished scattering evidence showing that wide application of standardized tests to a group of non-delin-

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quents selected at random from the general population would disclose a much higher percentage of feeble-minded persons—using current standards for the diagnosis of feeble-mindedness in delinquent groups—than the standards were originally intended to reveal in the population as a whole. The following quotation from Pintner and Paterson<sup>2</sup> is illustrative of this point: "At present we are subjecting our delinquents to much more severe standards of intelligence than we apply to non-delinquents, or . . . if the percentage of feeble-mindedness among delinquents is such as the studies give, then the percentage among non-delinquents is much higher than we customarily suppose to be the case." Other writers have expressed much the same opinion in reports of recent investigations.

My own experience as psychologist at the Indiana Reformatory, together with subsequent experience in the psychological service of the army, has led me to similar conclusions. In the part of the article that follows I shall present concrete data which substantiates this conclusion. In addition, I shall indicate the amount of feeble-mindedness in a group of 399 male adult inmates of the Indiana Reformatory, as determined by typical current standards, and shall submit significant data bearing on the relation of intelligence to criminal offense.

#### PERSONS TESTED

The chief data on which this study is based are taken from the psychological examinations of 399 boys and young men, ages 16 to 30 years, admitted to the Indiana Reformatory during the period from September 1, 1916, to July 31, 1917. The criminal offenses for which they were committed are given in detail in a later section and need not be discussed here. It will be well, however, to keep in mind that no commitments were for a period of less than one year, and that life commitments were to the Michigan City State Prison. With certain necessary exceptions, the cases are consecutive entries. Of the total number, 299 individuals were white and 100 are colored. Roughly speaking, one may, with fair accuracy, regard this group as representative of the institution's annual receipts.

In the following table is given the number of cases eliminated from the total number of entries between the time limits specified above, together with the cause of elimination. These eliminated cases are scattered throughout the eleven months. The undesirability of considering them with the other groups is evident from the reasons given for their elimination. All aliens or individuals of foreign birth

<sup>2</sup>"A Psychological Basis for the Diagnosis of Feeble-Mindedness." *J. of Crim. Law and Criminal*, 1916, 7, p. 53.

with language difficulties were rejected from the study; also no epileptics or subjects with psychoses sufficiently well defined to be so diagnosed by the prison physician were included. The total number of entries during the time limits of this study is 399, plus the 16 rejected cases, makes a total of 415 entries.

#### CASES REJECTED FROM STUDY

No.	Race	Cause of Rejection and Remarks
1	White	Test incomplete; estimated mental age about 10 yrs.
2	Colored	Test incomplete; unsatisfactory response; malingering suspect; estimated 10 yrs. and 14 yrs.
1	White	Foreigner; insane at time of commitment; confined pending transfer.
2	White	Epileptic; regular periodic attacks.
1	Colored	Physically unfit; last stages of T. B.; confined to hospital bed soon after admission.
9	White	Foreign birth; language difficulty.

#### METHODS AND MATERIALS

Examinations were given, almost without exception, within the third or fourth week after the prisoners' arrival at the institution. The amount of this delay was determined by practical considerations. The most important of these are:

1. It enabled the inmates to recover, in a large measure, from the immediate ill effects of physical and mental strain incurred by detention in jails, trial and conviction, and especially the difficult adjustment to a novel and complex routine of prescribed activities.

2. Sufficient time was given the examining physician to complete and forward to the psychologist reports of the physical and neurological examinations. This enabled the latter to familiarize himself with the salient features of these reports before proceeding to examine and classify the cases.

3. The department of identification was given adequate time to assemble much important supplementary data bearing on the inmates' previous criminal or institutional record. Also it was able in that time to collect many important facts pertaining to the present crime, plea, defense, and convicting evidence; all of which were made available to the psychologist.

All testing with which this study is concerned was carried on in the laboratory of the research department. A variety of tests, both intelligence and educational, were used as a basis of classifications for practical institutional use.<sup>3</sup> But since only the Binet tests are relevant to this study, no further mention of the other tests is necessary.

<sup>3</sup>For a complete description of the method of classification and its use, consult "Second Report, Department of Research," Indiana Reformatory Print, by

In the measurement of the general intelligence of inmates the Stanford Revision of the Binet tests was given more weight than any of the other tests or test series. Procedure in administering the Binet tests and evaluating the responses were governed by the detailed directions furnished by Terman.<sup>4</sup> In the computation of mental ages, the basal age was taken as the last year in which not more than one test was failed.<sup>5</sup> In certain tables which follow the I. Q. is used. Since 16, the average adult mental age according to Terman, has been used throughout in calculating the I. Q., there is no objection to using the I. Q. and mental age interchangeably, according to the need of the situation.

The data from which the comparison is made between inmates and certain units of the 84th Army Division were secured by the author, in person. The original army examination test "A," which in a modified form is the later group examination test "Alpha," was used. Approximately 800 inmates, taken at random from their cell barracks in the reformatory, were assembled for the group examination. Slightly under 150 were eliminated because of insufficient literacy to take the test.<sup>6</sup> A few more failed to write their names on the test booklets, thus causing us to lose their identity; hence, the number for whom scores were obtained was reduced to 650. Of this number 256 cases had been previously examined by the Binet tests (Stanford Revision) at the time they entered the Reformatory. They are a part of the group which form the basis of this study.

Not all of the 650 cases are white. Although it is extremely desirable to treat negro scores separately from the scores of whites, records are no longer available for exact ascertainment of the number of colored. An estimate based on scattered evidence at hand gives the following figures: Of the 650 cases there were about 575 whites and 75 colored, and of the 256 there were approximately 220 whites and 36 negroes. Inspection of the mean I. Q. of this group of 256 cases given in Table VII shows it to be 77.4, which is somewhat lower than that of the 299 whites of Table III. Presence of the negroes is probably the chief cause of this slightly lower mean.

F. C. Paschal. Also "Mental Examination of Two Thousand Delinquent Boys and Young Men," Indiana Reformatory Print, by M. L. Beanblossom.

<sup>4</sup>"The Measurement of Intelligence," L. M. Terman.

<sup>5</sup>This method of determining the mental age yields slightly higher mental ages than one in which the basal age is taken to be that in which no failure occurs.

<sup>6</sup>Those who could not read the prison newspaper were rejected. A similar method was used in eliminating illiterates in the army groups with which the inmates are compared.

## RESULTS

Table I is the distribution of chronological ages for the 299 white inmates; Table II, a similar distribution for the 100 colored. As stated heretofore, the range of ages of men entering the Indiana Reformatory, as fixed by law, is from 16 to 30 years. The mean chronological age for the whites is 21.56 years—S. D. = 3.54. For the colored the mean is 21.82 years—S. D. = 3.3. The per cent of cases for each age is shown in the table.

TABLE I

DISTRIBUTION OF CHRONOLOGICAL AGES FOR 299 WHITE INMATES, INDIANA REFORMATORY																
Age	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	T
No. cases	10	23	35	38	27	31	28	20	26	11	14	14	10	6	6	299
Per cent.	3.34	7.69	11.70	12.70	9.03	10.36	9.36	6.69	8.69	3.67	4.68	4.68	3.34	2.00	2.00	100%
Mean age	.....21.56															
S. D.	..... 3.54															

TABLE II

DISTRIBUTION OF CHRONOLOGICAL AGES FOR 100 COLORED INMATES, INDIANA REFORMATORY																
Age	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	T
No. cases	4	10	5	6	13	6	13	13	5	5	8	9	2	1	0	100
Per cent.	4	10	5	6	13	6	13	13	5	5	8	9	2	1	0	100%
Mean age	.....21.82															
S. D.	..... 3.3															

Tables III and IV, whites and colored respectively, give the distributions of mental ages with respect to chronological ages. The intelligence quotients are given in groups of five, as indicated in the horizontal line across the top of the page. In the horizontal line immediately below the line of I. Q.'s is given the mental age value of the mid-point of each I. Q. group. Thus the reader may easily inspect the table in terms of I. Q. or mental age in years. Chronological ages are given in the column at the left. In the line at the bottom of the table and the column at the right totals are given.

The mean I. Q. for the whites is  $79.05 \pm .771$ ; S. D.  $13.33 \pm .545$ . For the colored it is  $68.85 \pm 1.03$ ; S. D.  $10.3 \pm .728$ . In each table, it will be observed, both high and low intelligence quotients are found in each year of chronological ages. Correlations of I. Q. and chronological age give the following coefficients:

Whites .....r = .184; P. E.r = .0252  
 Colored .....r = -.009; P. E.r = .06738

Neither of the coefficients is sufficiently large to indicate an important significant relation between mental age and chronological age for these groups of adults.



Table V gives a percentage distribution of mental ages of the reformatory groups and 653 drafted men<sup>7</sup> (English-speaking whites) taken from a number of camps in various parts of the United States and examined with the Stanford Binet before selective factors within the camp had begun to operate. The column at the left of the table gives mental ages in years. Columns to the right give, respectively, percentage distributions of the army group, the reformatory whites and the reformatory colored.

The mean mental ages in years for each group are:

Army (whites) .....	Mean M. A. 13.4 ± .111; S. D. 2.85 ± .075
Refor. (whites) .....	Mean M. A. 12.65 ± .123; S. D. 2.13 ± .09
Refor. (colored) .....	Mean M. A. 11.016 ± .164; S. D. 1.65 ± .117

The difference between the mean mental ages of the army whites and reformatory whites is .75 year. Although this difference is surprisingly small, it is a real and significant one as shown by the magnitude of the  $\frac{\text{diff.}^8}{\text{S. D. diff.}}$ , which has been found to be 4.4.

Between army group and reformatory colored the difference of the means is 2.38 years; the  $\frac{\text{diff.}}{\text{S. D. diff.}} = 11.9$ .

Between reformatory whites and reformatory colored the difference is 1.63 years; the  $\frac{\text{diff.}}{\text{S. D. diff.}} = 7.9$ .

The relatively large difference between the mean of the colored and those of the whites is worthy of note. It probably arises, in part, from a real racial difference in intelligence.<sup>9</sup>

The fact that the mean I. Q. of the army group is considerably below the standard which has heretofore been accepted as the mental age of the average adult leads one to raise the question as to whether the army data here offered are a fair index of the intelligence of the general adult population. To future investigations must be left the final answer to this question. In this connection, however, we shall say that other army data indicate that these figures are not far from an accurate representation of the level of intelligence of the draft army.

<sup>7</sup>"Memoirs Psychological Examining in the United States Army."

<sup>8</sup>Yule G. Udney, "Introduction to Theory of Statistics," pp. 310, 311.

<sup>9</sup>Evidence for this racial difference was clearly shown in the army examining.



TABLE V  
 PERCENTAGE DISTRIBUTION OF MENTAL AGES OF 653 ARMY RECRUITS AND 299  
 WHITE AND 100 COLORED INMATES OF THE INDIANA REFORMATORY

Mental Ages	Army Group	Reformatory	
		Whites	Colored
19.0-19.9	0.8	.0	...
18.0-18.9	5.2	0.33	...
17.0-17.9	7.2	1.7	...
16.0-16.9	8.3	6.4	2.0
15.0-15.9	9.6	6.0	3.0
14.0-14.9	11.8	17.4	0.0
13.0-13.9	10.6	8.7	6.0
12.0-12.9	12.4	17.7	14.0
11.0-11.9	10.6	16.7	16.0
10.0-10.9	10.1	16.1	31.0
9.0- 9.9	9.5	6.0	22.0
8.0- 8.9	3.4	2.7	6.0
7.0- 7.9	0.2	.33	...
6.0- 6.9	0.3	...	...
5.0- 5.9	0.2	...	...
Total per cent.	100.0	100.0	100.0
No. cases	653	299	100
Mean	13.4	12.65	11.016
S. D.	2.85	2.13	1.64
S. D.m	.111	.123	.164
S. D.δ	.075	.089	.117

The data of Table V are presented graphically in Plate I.

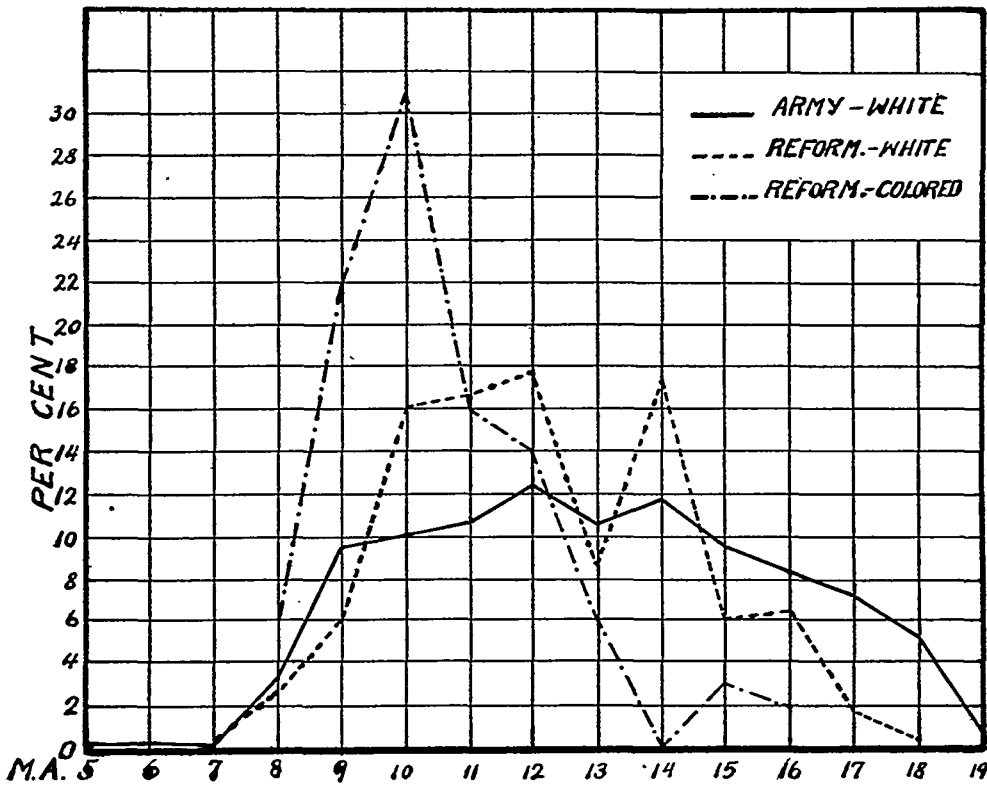


PLATE I. Percentile distribution of mental ages of 653 men (white) of the U. S. Army and 299 white and 100 colored inmates of the Indiana State Reformatory. Mental ages measured by Stanford Revision of the Binet Tests.

In Table VI are presented the median scores in army group examinations "A" for 650 inmates of the Indiana Reformatory and four regiments of the 84th Army Division. The men comprising the army units were drafted from Indiana, Illinois and Kentucky in September and October, 1917.

TABLE VI

GROUP INTELLIGENCE SCORES FOR UNITS OF 84TH ARMY DIVISION AND 650 INMATES OF INDIANA REFORMATORY (ARMY GROUP TEST A)

<i>Group</i>	<i>Whence Recruited</i>	<i>Median Score</i>
650 unselected men of		
Indiana Reformatory	Largely Indiana, Ohio, Kentucky and Illinois	126
333 Infantry	Southern Illinois .....	147
334 Infantry	Central Indiana .....	191
335 Infantry	Southern Indiana .....	151
336 Infantry	Kentucky .....	118
	Median Score of the Four Regiments—155.	

Each of these regiments was examined after certain selective factors had begun to operate. Some of the men of the higher grades of intelligence had been transferred from the infantry regiments to division headquarters, and a small percentage of skilled laborers to special units. None, however, had, up to the time of the examinations, been transferred to officers' training schools. Hence, it is probable that the regiments were, at the time of the examinations, fairly representative of the entire division. The elimination and transfer of a great number of low grade cases prior to the psychological examination make the average scores slightly too high to be taken as a fair representation of the general run of drafted men. The receiving board had rejected at the outset a small percentage of the mental defectives; had they remained, however, most of these cases would not have entered into these results because of illiteracy. But the transfer of a certain percentage of each organization to national guard camps did remove a considerable percentage of the low grade literates, since it was the practice of each unit to rid his own outfit of as many *misfits* as possible. All things considered, it is not far from the facts to assume that the average score of the four regiments is not more than 30 points above that of the 650 cases of the Reformatory.

Since 256 of the inmates to whom the army test was given had previously been examined by the Stanford Binet tests, we have data from which an estimate of the mental age equivalent for the 30 points difference in group score can be ascertained. Table VII is a distribution of mental age and group intelligence scores for the 256 cases.

TABLE VII

RELATION OF INTELLIGENCE QUOTIENT AND ARMY GROUP INTELLIGENCE SCORE FOR 256 INMATES OF INDIANA REFORMATORY

I. Q.	50	55	60	65	70	75	80	85	90	95	100	105	110	
M. A.	54	59	64	69	74	79	84	89	94	99	104	109	115	
	8.4	9.2	10	10.8	11.6	12.4	13.2	14	14.8	15.6	16.4	17.2	18.0	
Group In-tell. Score														Total
0-24	2	3	1	1	..	..	1	..	..	..	..	..	..	8
25-49	1	3	7	5	1	2	..	..	..	..	..	..	..	19
50-74	..	6	8	6	3	1	..	..	..	..	..	..	..	24
75-99	..	2	7	7	9	3	1	1	..	..	1	..	..	31
100-124	..	1	8	12	13	5	3	1	..	1	1	..	..	45
125-149	..	..	3	5	7	8	5	2	1	..	..	..	..	31
150-174	..	..	..	2	3	12	6	6	3	3	1	..	..	36
175-199	..	..	1	1	..	3	3	2	5	4	3	..	..	22
200-224	..	..	..	..	..	..	4	1	6	4	3	1	..	19
225-249	..	..	..	..	..	..	..	2	1	3	6	..	..	12
250-274	..	..	..	..	..	..	..	..	..	..	2	..	..	2
275-299	..	..	..	..	..	..	..	..	1	..	..	1	..	2
300-324	..	..	..	..	..	..	..	..	..	..	3	..	1	4
325-349	..	..	..	..	..	..	..	..	..	..	..	..	..	0
350-374	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Total	3	15	35	39	36	34	23	15	17	15	20	3	1	256
Median I. Q.	..	..	..	75	..	..	..	..	..	..	..	..	..	126
Mean I. Q.	..	..	..	77.4	..	..	..	..	..	..	..	..	..	132.5
δI. Q.	..	..	..	13.85	..	..	..	..	..	..	..	..	..	65.5
r	..	..	..	..	..	..	..	..	..	..	..	..	..	.801
P. E.r	..	..	..	..	..	..	..	..	..	..	..	..	..	.01504

The median score for the group is 126 points, just one point higher than that of the larger group of 650 cases. The median mental age is 12 years. From the data of Table VII we find that the regression of x on y is indicated by the following equation:  $x = .17y$ . From which we find 155 points of raw score correspond to 12.98 years M. A. Roughly, then, we may consider the average mental age of the regiments to be 13 years. A generous allowance for the lowering of group score for the army groups due to somewhat unfavorable test conditions would probably raise this mental age 1/2 year, but it is extremely improbable that it would raise it to 14 years. From this evidence we may assume then, that the mental ages for the 653 cases of the army group is a fair index of the general intelligence of the men recruited through the selective draft. And as such it is probably the best available standard of reference for a comparative study of the adult population of reformatories and prisons.

Returning now to Table V, it is noticed that the range of mental ages in the army group is appreciably wider than that of the inmate groups. The former has both higher and lower mental ages. What are the causes of the relatively limited range in the reformatory group? No doubt there are several factors operating to produce this condition, but the most important are believed to be as follows: (1) A consid-

erable number of very low grade defectives are given sufficiently close supervision at the hands of relatives or friends to prevent criminal activities; (2) There is a growing tendency on the part of the courts to deal more leniently with individuals who are shown to have low-grade intelligence. The result of this leniency frequently is a short-time commitment to jail, to a workhouse, or the state penal farm, instead of the reformatory.

Of the selective factors at the upper end of the intelligence scale two are worthy of mention: (1) Men convicted of federal offenses are imprisoned outside the state. Consideration of the nature of the majority of these offenses and the civil standing of the perpetrators lead us to believe that these criminals are above the average intelligence found in the reformatory population; (2) a much higher percentage of the criminals of relatively low intelligence are convicted than of those who intelligence is well above the average. The more intelligent criminals, in contrast to those of low-grade intelligence, are able, by virtue of their superior ability, to evade detection and apprehension more effectively, conceal or destroy convicting evidence more artfully, and especially to operate more successfully within the margin of technicalities of the law. Their successful evasions reveal the technical deficiencies of the law and give rise to a demand for legal enactment or revision.

Another point with which we are concerned in connection with Table V is the amount of feeble-mindedness in the reformatory groups. Obviously the amount varies in accordance with our definition of feeble-mindedness and the scale standard of intelligence established for its determination. Naturally the attempt is made to devise a scale standard which detects only the cases fitting our definition.

Two distinct types of definitions of feeble-mindedness are now used by clinical psychologists. One attempts to define *social* feeble-mindedness and the other *intellectual* feeble-mindedness. In general, those who attempt a definition of feeble-mindedness in terms of social incompetence are unwilling to base a diagnosis on the result from intelligence tests alone; to this data is added satisfactory evidence of the subject's inability to cope with the situations of his environment before the diagnosis is completed. On the other hand, those who define feeble-mindedness in terms of intelligence or tested ability depend largely if not quite altogether on standardized tests of intelligence for their diagnoses. Perhaps some light on our problem of determining the amount of feeble-mindedness in the reformatory group can be gotten by applying a few current standards to our data of Table V.

The following presumably gives Terman's views on the matter of feeble-mindedness among adults.<sup>10</sup> It will be noted that he has in mind social feeble-mindedness.

"By feeble-mindedness is usually meant a degree of inferiority which makes a normal, independent existence impossible or at least precarious." "In the case of a certain number of subjects of borderline intelligence, it is not, and never will be, possible to decide the question of social competency on the basis of a mere intelligence test. With individuals below a certain level, however, this is quite possible." "The facts seem to be about as follows: If an individual (adult is meant) grades below the 10-year level, it appears that a normal social life is rendered so difficult that the term 'feeble-minded' practically always applies." In classifying the cases in the study from which the quotations are taken the diagnoses were based on combined results of several tests in addition to the Binet tests, with the result that standards were used which are somewhat more severe than the 10-year limit would indicate. The range of mental ages for the feeble-minded, based on the combined tests, was from 7½ years to 11½ years, and for the "borderzone" group, from 10 years to 12½ years. Since we are not considering evidence of social incompetency in the present study we shall consider only those who fall below the 10-year level as feeble-minded in the sense of the above definition. The following table gives the per cent of feeble-minded when this standard is applied to the data of Table V:

	<i>Army</i>	<i>Reformatory</i>	
		<i>Whites</i>	<i>Colored</i>
Feeble-minded .....	13.6%	9.03%	28.0%

It is important to note that Terman intended to segregate by his test standards a group of defectives corresponding to the socially feeble-minded in the general population, which he takes to be about 1 per cent. If the army data are reliable indices of the intelligence of the general adult population, it is at once apparent that a serious discrepancy exists between the mental age criterion and the percentage definition just considered.

The idea of feeble-mindedness as intellectual deficiency or tested deficiency is clearly elaborated by Miner.<sup>11</sup> His standards of intellectual deficiency for adults are indicated in the following quotation (page 93). "The group studies confirm our suggestion that a borderline of 10 (years) or below will bring in for expert consideration

<sup>10</sup>"Surveys in Mental Deviation in Prisons, Public Schools and Orphanages in California," H. E. Knollin and L. M. Terman, pp. 6-19.

<sup>11</sup>"Deficiency and Delinquency," 1918, by James Burt Miner.

nearly all adults who are feeble-minded from lack of intellectual ability, while testing IX is a fairly clear indication of such serious deficiency as to justify isolation." Applying the nine-year standard to the data of Table V we get the following percentages for each group:

	<i>Army</i>	<i>Reformatory</i>	
		<i>Whites</i>	<i>Colored</i>
Feeble-minded .....	5.0%	4.01%	8.0%

This standard of feeble-mindedness must also be considered in connection with the percentage definition from which it was derived. Miner's percentage definition of the intellectually feeble-minded and borderline cases states that in the general population the "Lowest .5% [is] to be regarded as presumably deficient enough to justify isolation, and the next 1% as doubtful, but low enough to warrant special training and probably requiring indefinite social assistance." Here again we note a discrepancy between mental age standard and percentage definition, and we are led to believe that the mental age standard is too high to correspond to the facts of the case. If, similarly, other percentage definitions of intellectual feeble-mindedness in current usage be applied to our data of Table V it will be observed that the discrepancy between the number of cases revealed by the percentage definition and the mental age standard assumed to be its equivalent is far too large to meet the requirements of scientific test procedure.

From the army data of Table V the percentage of men whose mental ages are  $8\frac{1}{2}$  years or less is found to be 2.45. Unquestionably the number of cases falling at the lower end of the distribution is much too small to be taken for more than a very tentative basis for a comparison of the amount of intellectual defect in the army and in the reformatory groups; yet such a comparison is very instructive. Of the 299 white inmates 2.01% have a mental age of  $8\frac{1}{2}$  years or less. Of the 100 colored inmates, 4.0% tested  $8\frac{1}{2}$  years or less. Other penal institutions of similar kind likewise have only a small per cent of individuals whose tested intelligence does not exceed the level of  $8\frac{1}{2}$  years.

Rossy<sup>12</sup> published mental ages (Point Scale) for 270 inmates of the Massachusetts State Prison. The cases were examined according to the alphabetical order in which their names were listed, except for a few of the late admissions. Three hundred cases were called in for examination, but 30 were rejected because of language difficulty, physical disability or unwillingness to be tested. Expressing the point

<sup>12</sup>"Report of the first three hundred cases examined at the Massachusetts State Prison, C. S. Rossy; Bulletin No. 17 of the Massachusetts State Board of Insanity." 1916.

scale ages in Stanford Binet equivalents (the equivalents used in psychological testing in the army were used), we find only 6 of the 276 individuals whose mental age falls at 8 years or lower. This number is 2.22% of the number examined. The total per cent of cases falling at 8.5 or lower is 5.55%.

Haines<sup>13</sup> tested 87 consecutive admissions to the Ohio penitentiary, using the Point Scale. Of this number 21 were negroes and the remainder white. Stanford Binet equivalents for the Point Scale scores show no cases, either white or colored, falling as low as 8½ years. Below 9 years only 4 colored and 3 whites fall. Terman studied 155 consecutive entrants to the San Quentin, California, penitentiary. Only 3 individuals tested 8 years or lower. As to nationality, they are one negro, one Mexican, and one Austrian Pole. This number is 1.9% of the number tested; 3.22% tested 8½ years or lower. The nationalities of these are 2 Poles, 1 Mexican, 1 Indian and 1 negro.

If future experimentation upon the general population confirms the army evidence that standards hitherto used to designate various levels of intelligence, viz., feeble-minded, borderzone, average, etc., are from 1 to 2 or more years too high, it will be necessary to revise much that has been written concerning the relation that defective intelligence bears to criminal activity. Unquestionably many of the earlier experimenters overemphasized the efficacy of defective intelligence in the production of crime. But, as yet, we know far too little concerning the intelligence of the general population to advance beyond the stage of speculation. Two important facts, however, may well be stressed in the consideration of the problem. If the inmates are grouped according to criminal offense, each crime which was committed by a considerable per cent of the whole number of individuals of this study shows a very wide range of intelligence; and in some institutions from 30% to 40% of the inmates equal or surpass in intelligence the average of the general population.

#### CRIME AND MENTALITY

Tables VIII and IX (white and colored, respectively) give the types of criminal acts, their frequency, and the mental ages of the individuals committing the various crimes. In the column at the left is given the actual criminal act, regardless of the offense named in the commitment papers. Following the traditional three-fold division

<sup>13</sup>Ref. "Feeble-mindedness Among Adult Delinquents," Thomas H. Haines; *Jour. of Crim. Law and Criminology*; Vol. VII, pp. 702-721.

TABLE VIII  
INTELLIGENCE IN RELATION TO TYPE OF CRIME—299 WHITE INMATES, INDIANA REFORMATORY

	45	50	55	60	65	70	75	80	85	90	95	100	105	110	Per Cent.
I. Q. ....	49	54	59	64	69	74	79	84	89	94	99	104	109	114	0.33
M. A. ....	7.6	8.4	9.2	10	10.8	11.6	12.4	13.2	14	14.8	15.6	16.4	17.2	18.0	2
<i>Crimes Against Person</i>															
A and B to Commit Felony.....	1	1	1	1	1	3	3	1	2	6	3	1	1	1	0.66
A and B to Kill.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.33
A and B to Rape.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.66
A and B to Rob.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.66
Manslaughter .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Rape .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
Robbery .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20
Sub-Total .....															38
<i>Crimes Against Property</i>															
Arson .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.66
Burglary, 1st degree.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2.67
Burglary, 2nd degree.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20.73
Embezzlement .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.33
Ent. House to C. Fel. ....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3.67
Forgery .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7.69
House Breaking .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.34
Obt. Money, False Pret. ....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.33
Rec. Stolen Goods.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.34
Utt. Fraud. Check.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3.01
Petit Larceny .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14.04
Grand Larceny .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	21.73
Sub-Total .....															232
<i>Crimes Against Public Order</i>															
Bigamy .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.66
Consp. to Com. Felony.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.34
Child Desertion .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.33
Esc. State Pen. Farm.....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6.02
Perjury .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.33
Seduction .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.33
Wife Desertion .....	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.66
Sub-Total .....															29
Totals .....	1	7	9	31	35	42	52	20	29	34	14	19	4	2	9.67
Grand Total .....															299

of criminal acts we have separated them into crimes against person, property and public order. At the right a column of totals, sub-totals and per cents are given. The upper line of the table gives the mental ages and the lower line the totals for each mental age group.





Referring to Tables VIII and IX, it is evident that crimes against property are far more numerous than either crimes against person or public order; in fact, they exceed the combined numbers of the others. Comparing the negroes with the whites, it is seen that the whites committed relatively fewer crimes against person than the colored, but more against property and public order. It is very probable that the relatively higher per cent of offenses against person among the negroes is due to the fact that the courts are a trifle more severe with the negro than the white in order that he may be kept in the approved degree of subordination. On the other hand, fewer negroes are brought to trial for certain crimes against public order, pertaining to domestic relations, viz., bigamy, child desertion, seduction and wife desertion.

It is interesting to note that a relatively small number of offenses include the greater number of offenders. For the whites approximately 80% of the criminal acts are included under the following heads: Robbery, Second Degree Burglary, Escaping State Penal Farm, Forgery, Grand Larceny and Petit Larceny. For the negroes there is a somewhat smaller percentage because of the numerous assault and battery offenses, which are not included in the first grouping; it is 64%.

Certain of the criminal acts show a high frequency for particular modes of criminal activity, or for types of objects against which or for which the crimes are committed. The most striking illustrations of this are found under Grand Larceny and Burglary of Second Degree. Of the Grand Larceny offenses (whites) 55.4% involved the theft of automobiles, and 52.8% of the stolen cars were Fords. Of the Second Degree Burglary crimes (whites) 64.5% of the acts involved the robbery of stores or depots.

Recently much interest has been manifested in the relation of intelligence to the types of crimes. Referring to the distribution Table VIII one sees that for every crime having a relatively high frequency all grades of intelligence are found. In Table X this relation is brought out more strikingly for the whites. A few of the criminal acts have been subdivided, and others of similar nature have been combined.

The mean I. Q. for Robbery is 84.5, which is 13.67 points above that of Escaping from the Penal Farm. In each case, however, the P. E.'s are high; therefore this apparent difference may be accidental rather than a real difference. Similarly, other differences between means, when considered with their high variability coefficients, are

TABLE X  
RELATION OF INTELLIGENCE TO CERTAIN COMBINED OR DIVIDED GROUPS OF CRIMES. DATA TAKEN FROM TABLE VIII.

	45	50	55	60	65	70	75	80	85	90	95	100	105	110	T.	Mean	S.D.
I. Q. ....	49	54	59	64	69	74	79	84	89	94	99	104	109	114	34	82.06	2.4
M. A. ....	7.6	8.4	9.2	10	10.8	11.6	12.4	13.2	14	14.8	15.6	16.4	17.2	18.0	8	.....	.....
<i>Crime</i>																	
Forgery .....	..	..	..	1	5	7	5	1	5	5	1	3	1	..	4	.....	.....
Burglary, 1st degree.....	..	..	..	..	1	..	3	1	1	1	..	1	..	..	8	.....	.....
Burglary, 2nd degree.....	1	..	5	6	6	7	15	5	5	7	..	4	1	..	62	.....	.....
E. H. C. F. ....	..	..	..	..	2	1	2	..	3	2	1	..	..	..	11	.....	.....
House Breaking .....	..	..	..	2	..	..	..	..	..	..	..	1	1	..	4	.....	.....
Total Burglary, all types.....	1	..	5	8	9	8	20	6	9	10	..	6	2	..	85	78.91	2.6
Auto Steal. (F. 19; oth. 17).....	..	..	..	2	2	8	6	2	2	5	7	1	1	..	36	82.67	2.4
Other Grand Larceny .....	..	1	..	2	3	7	6	1	3	1	1	4	..	..	29	79.1	2.57
Burg., 2nd deg., stores and depots...	..	..	..	3	6	6	13	2	3	4	..	3	..	..	40	78.5	2.04
Burg., 2nd degree, all others.....	1	..	5	3	..	1	2	3	2	3	..	1	1	..	22	75.45	3.3
Petit Larceny .....	..	2	..	6	9	5	5	5	4	2	..	3	..	1	42	76.3	2.7
Robbery .....	..	..	1	3	..	..	3	1	2	6	3	..	1	..	20	84.5	2.74
Escape from State Farm.....	..	2	1	4	3	2	1	3	1	..	..	1	..	..	18	70.83	2.53

not sufficiently substantial to be considered conclusive evidence of a real difference. But from this grouping it appears that a slightly more intelligent group of individuals commit crimes of Forgery, Auto Stealing and Robbery than Escaping from Penal Farm, Petit Larceny and Burglary, Second Degree. To secure conclusive evidence on this point, however, a much larger number of cases than our study embraces should be considered. In the case of the negroes no table corresponding to Table X has been prepared, because of the small number of cases falling under each, crime heading.

#### SUMMARY

1. There is at present a considerable difference in opinion as to the amount of defective intelligence in groups of adult male inmates of reformatories and prisons. The chief cause of this difference is the lack of accurate standards of comparison relating to the intelligence of unselected non-delinquent adults of the general population.

2. Current standards denoting average intelligence have been, in general, too high. Psychological testing in the army indicated that the mental age of the average male adult is between 13 and 14 years, which is from one to two years below standards generally held by clinical examiners. One of the practical results of too high standards has been the overestimation of the amount of defective intelligence in reformatory and prison populations.

3. In this study the mental ages of 299 white and 100 colored inmates of the Indiana Reformatory are compared with the mental ages of 653 unselected drafted men who were examined at the time they arrived at the army camp. The average mental age of each group is:

Army (Whites) .....	13.4 years	S.D. 2.85
Ref. Whites .....	12.65 years	S.D. 2.13
Ref. Colored .....	11.016 years	S.D. 1.65

The percentage of cases whose mental ages fall below 9 and 10 years are:

	Army	Ref. White	Ref. Colored
Below 9 .....	4.1%	3.03%	6.0%
Below 10 .....	13.6%	9.03%	28.0%

Both the 9 and the 10-year levels of mental age have been recommended by psychologists as practical standards for use in detecting individuals whose general intelligence corresponds to that of the lowest, .5% to 1% of the general population. The army data show that these standards actually cut off a per cent far in excess of that intended.

4. In the reformatory group, crimes against property are greatly in excess of crimes against person or public order. Comparison of the 299 whites with the 100 negroes shows that the former committed relatively fewer crimes against person, but more against property and public order. In each group approximately three-quarters of the whole number of individual crimes fall under the headings: Burglary, Second Degree, Robbery, Escaping State Penal Farm, Forgery and Grand and Petit Larceny.

6. Although our evidence is not conclusive, it indicates that the intelligence of the group as a whole committing crimes of Forgery, Auto Stealing and Robbery is higher than that of the groups committing crimes of Second Degree Burglary, Petit Larceny and Escaping from the State Penal Farm.