A NOTE ON THE *a-b* RIDGE COUNT AND INTELLIGENCE.

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[Received 3 November, 1950.]

THE *a-b* ridge count, called the *a-b* count for short, is the number of epidermal ridges crossing or touching a fine straight line drawn joining the triradii *a* and *b* on the palm. The triradial point, or the radiant when the former is absent, is not included in the count. It was pointed out in a previous work (Fang, 1949) that, on the assumption that university students are more intelligent than the general population, there is a consistent increase of the mean *a-b* count with intelligence. The results of the present study seem to agree with this finding.

The study was based on the palm prints of the following samples:

1. University students—238 females and 80 males, believed to be mainly British by descent.

2. Non-specified types of mental defectives—36 idiots, 133 imbeciles and 35 morons, known to be British by descent. Specified types of defectives, such as mongoloid imbeciles, defectives due to birth injury or diseases, etc., were excluded.

The palm prints of the students are part of a collection made by Dr. Norman Ford Walker, of the University of Toronto, during the past some fifteen years, and those of the defectives are part of a collection made by Mr. A. Butler and myself at the Ontario Hospital School, Orillia, in the summer, 1950.

The results of this study are summarized in Table I. For convenience of comparison, some results obtained from the previous study are included. It is noted here that in the previous study the average of the *a-b* counts on the right and left hands of an individual was used, while in the present the total, instead of the average, was used. For instance, when the right hand has an *a-b* count of 42 and the left hand 44, the total 86 instead of the average 43 is used. The increase of mean count with intelligence and the agreement between the present and the earlier studies can be seen from the following analysis.

1. The mean count of students in Ontario-British population is 85·32 ridges, while that of students studied in England is 84·31. The mean difference of 1·01, with a standard error of 0·89, is probably due to sampling variation.

2. The mean count of the non-specified types of the Ontario-British defectives is 80·62 ridges, while that of defectives studied in England is 79·23.

* Holder of Canadian Red Cross Scholarship.

https://doi.org/10.1192/bjp.97.407.394 Published online by Cambridge University Press

As the mean difference of 1·39 has a standard error of 0·90, it too can be ascribed to sampling variation. A consistent sex difference in the mean count, higher in females than in the males, is present in the three grades of Ontario-British defectives, though it was not observed in the corresponding English

TABLE I.—*The Mean* a-b *Counts and Percentage Frequencies of the Low Count Class in the University Students, General Population and Non-specified Types of Mental Defectives in Two Sets of Samples (One Studied in England and One in Ontario) mainly British by Descent.*

Sample.	Sex.	Number.	Mean s.d.	Per cent of 78.
Students :				
1. England	F.	78	85·04—11·2	20·5
	M.	126	83·50— 9·8	23·0
	Av.	204	84·31—10·4	22·1
2. Ontario	F.	238	85·37— 9·8	23·5
	M.	80	85·16—11·7	26·3
	Av.	318	85·32—10·3	24·2
General Population :				
1. England	F.	435	83·01— 9·7	26·7
	M.	424	83·04—10·3	29·7
	Av.	859	83·03—10·1	28·3
Mental Defectives :				
1. England	F.	201	78·56—11·2	51·2
	M.	258	79·84—12·2	49·2
	Av.	459	79·23—11·8	50·1
2. Ontario :				
Idiots	F.	17	84·53—11·1	29·4
	M.	19	80·47—10·8	47·4
	Av.	36	82·50—10·9	39·0
Imbeciles	F.	56	81·43—12·3	37·5
	M.	77	78·58— 9·1	52·0
	Av.	133	79·77—10·4	45·8
Morons	F.	15	84·27—10·7	40·0
	M.	20	80·85— 8·1	35·0
	Av.	35	82·31— 9·0	37·1
Total	F.	88	82·51—11·6	36·4
	M.	116	79·28— 9·1	48·3
	Av.	204	80·62—10·2	43·1

https://doi.org/10.1192/bjp.97.407.394 Published online by Cambridge University Press

sample. The mean count is slightly, though not significantly, higher in the idiots and morons than in the imbeciles.

3. The mean count of the general British population studied in England is 83·03 ridges. This is significantly lower than that of the Ontario-British students, but higher than that of Ontario-British defectives. The mean difference between the British population and Ontario-British students is — 2·85, with a standard error of 0·64; that between the general British population and Ontario-British defectives is 2·41, with a standard error of 0·77.

ACKNOWLEDGMENTS.

The palm prints of the mental defectives at Ontario Hospital School, Orillia, were collected, thanks to Dr. Ford Walker, through the kind co-operation of the superintendent, Dr. Montgomery, and his staff.

REFERENCE.

FANG, T. C. (1949), "A comparative study of the *a–b* ridge count on the palms of mental defectives and the general British population," *J. Ment. Sci.*, **95**, 401.

https://doi.org/10.1192/bjp.97.407.394 Published online by Cambridge University Press