

Journal of Psycho-Asthenics.

VOL. IV.

DECEMBER, 1899.

NO. 2.

INVESTIGATION CONCERNING THE WEIGHT AND HEIGHT OF FEEBLE-MINDED CHILDREN.

BY A. R. T. WYLIE.

The height and weight of all the children in the Minnesota School for Feeble-Minded were taken in their ordinary school dress (shoes being on). The height was measured in millimeters and the weight in pounds read to quarters.

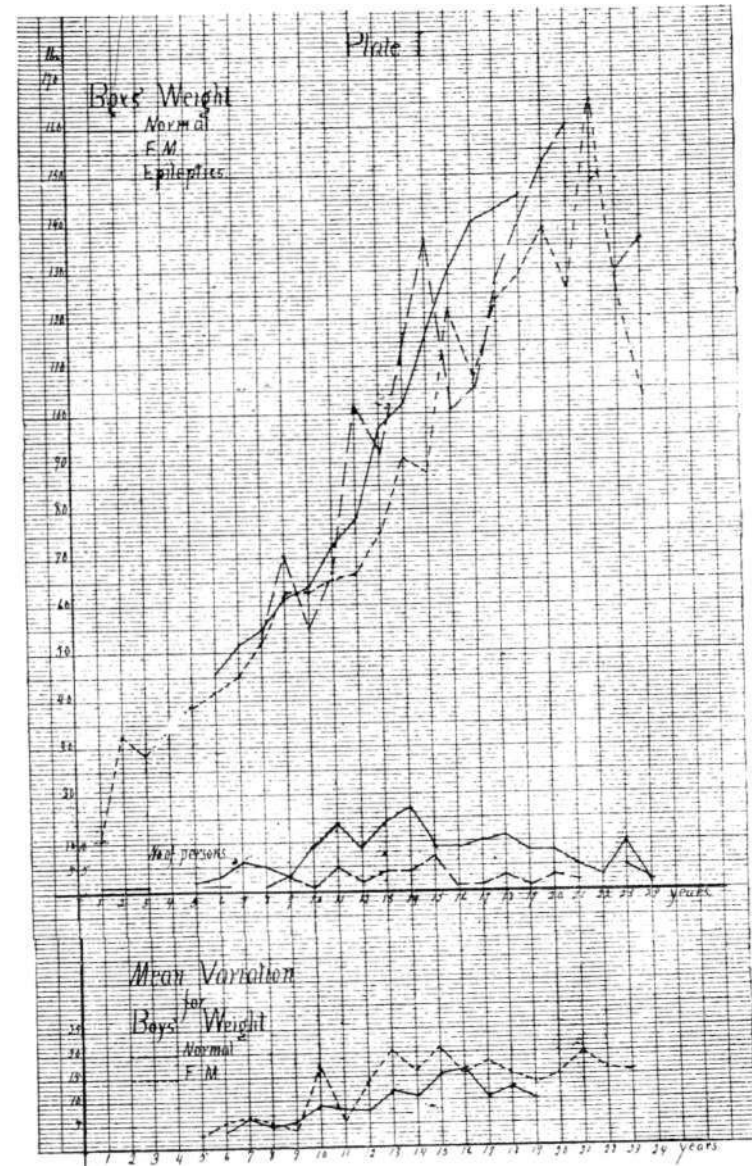
The object of the investigation was to find out to what extent, if any, the feeble-minded child differed from the normal child in these respects. For the normal, the results obtained by Gilbert, in his measurements of the Iowa school children, were taken, as found in "Studies in Psychology," Vol. I., University of Iowa. These he found differed in no important respects from measurements made on larger numbers of school children in Boston, Worcester and St. Louis.

The results obtained are shown in Table I. This table will be readily understood by all, except, perhaps, the column marked "Mean Variations." The results in this column were obtained by subtracting individual weights of any year from

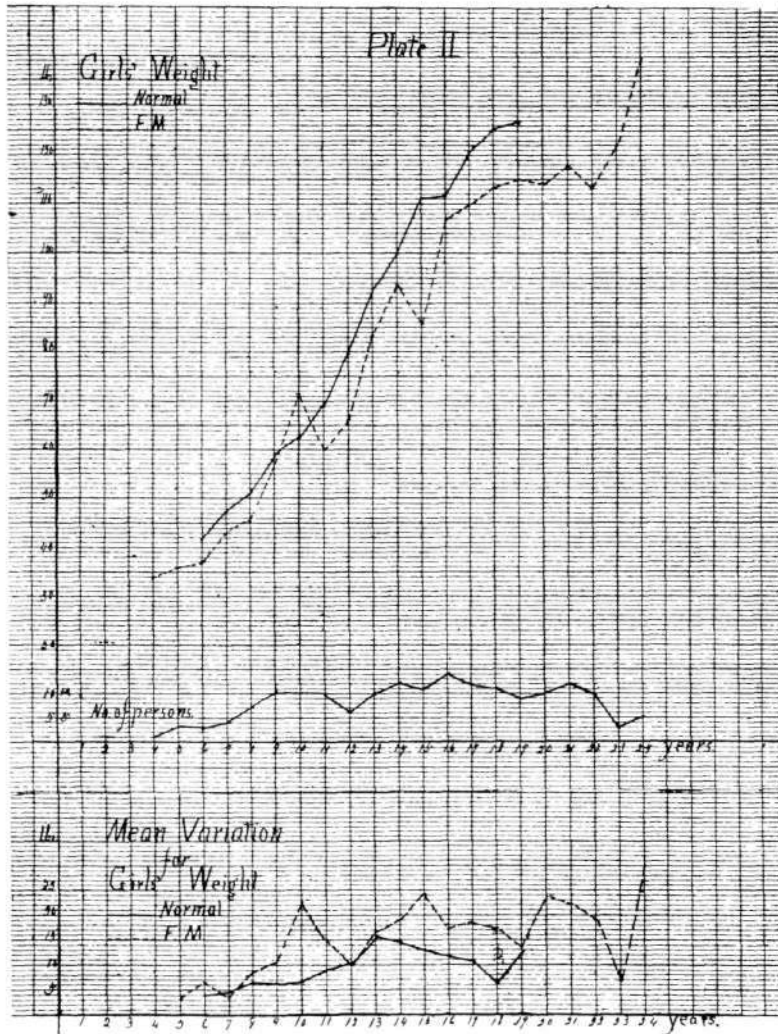
the average for the year, and then averaging these differences, the sign of the differences being neglected. The interpretation of this is, that while the average weight of a boy fourteen years old is 90.8 pounds, yet in an individual case we would expect the result to vary either way 16.5 pounds. This mean variation is calculated in place of the more common maximum and minimum, as being more exact. In fact, the author is inclined to think it is of the utmost importance in psycho-pathology.

From the figures of Table I. are platted the curves of the weights of boys and girls shown in Plates I. and II. Here it will be noticed that the curves of the feeble-minded children are below those of the normal school children, except at the points nine and ten years with the boys, where it barely exceeds the normal, and at ten years with the girls, where it is somewhat higher than normal. With normal boys the period from twelve to sixteen years is a period of rapid growth, the most rapid growth being from fourteen to sixteen years. The same years are a period of rapid growth for the feeble-minded boys, except at fifteen years, when there is a depression in the curve, the period of most rapid growth being for them between the years fifteen and sixteen. The period of most rapid growth for the normal girls is from eleven to thirteen years. The curve shows three periods of rapid growth for the feeble-minded girls, the most rapid being from twelve to fourteen and the others from eight to ten and fifteen to seventeen. We find a depression in the curve at fifteen years similar to that of the boys.

Plates 1. and II. below show the curves of mean variation for the boys and girls. The normal curve shows greatest variation at periods of most rapid growth. The same is true of the feeble-minded children. The boys exceed the normal except at nine, eleven and sixteen years; the girls except at seven and twelve years. The years of greatest variation for the boys are ten, thirteen, fifteen, twenty-one; for the girls, ten, fifteen and twenty.



They are nearer the normal weight than the feeble-minded boys, at nine, twelve and fifteen years being considerably above normal.



While the number of epileptics was too small to give us any established results, yet they show some interesting indications.

TABLE I.—WEIGHT.

Age.	No.	W. B.	M. V.	N. E.	W. B. E.	M. V.	No. G.	W. G.	M. V.	No. E.	W. G. E.	M. V.
1	1	10.5	.....	.....	.....	.....	1	20.5	.....	.....	.....	.....
2	1	22.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3	1	22.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4	2	38.7	2	.....	.....	.....	1	34.0	.....	.....	.....	.....
5	3	38.7	2	.....	.....	.....	3	35.8	3.3	.....	.....	.....
6	3	42.0	5.3	.....	.....	.....	3	36.6	6.5	.....	.....	.....
7	6	45.1	6.3	.....	.....	.....	4	43.2	3.4	.....	.....	.....
8	5	52.1	5.2	1	29.0	.....	7	45.3	8.6	2	49.3	4.3
9	3	62.3	3.7	3	70.5	5.0	10	56.0	10.6	.....	.....	.....
10	9	62.6	17.3	1	55.0	.....	10	70.1	22.4	1	72.0	.....
11	14	65.3	5.9	5	66.8	13.2	10	60.0	15.0	.....	.....	.....
12	11	66.7	14.6	2	101.2	12.2	6	66.1	9.9	3	69.2	3.1
13	14	75.2	30.6	.....	91.5	11.0	10	83.5	16.5	1	97.0	.....
14	17	80.8	16.5	4	114.1	12.6	12	93.5	19.0	3	102.3	12.4
15	9	87.7	21.0	7	136.4	20.9	11	85.8	24.2	.....	.....	.....
16	9	121.2	15.4	1	100.5	.....	14	101.6	17.2	.....	.....	.....
17	10	107.0	18.0	1	105.5	.....	12	109.7	18.4	.....	.....	.....
18	11	123.6	15.3	3	128.0	2.7	11	113.1	17.6	2	112.0	10.0
19	8	128.9	13.6	1	140.0	.....	9	115.0	13.7	1	112.0	.....
20	8	138.6	15.2	3	152.5	22.3	10	114.3	23.3	2	137.0	3.
21	5	126.0	20.0	2	160.0	10.	12	117.9	22.0	2	130.0	2.
22	3	165.0	16.6	.....	.....	.....	10	113.2	18.9	4	121.4	19.8
23	10	126.4	15.8	5	129.8	10.4	3	120.2	6.6	.....	.....	.....
24	1	103.	.....	2	136.3	5.2	5	139.4	30.1	.....	.....	.....
Whole No.	161	.....	.....	46	.....	.....	174	.....	.....	21	.....	.....

No.—Number of boys.
 W. B.—Weight of Boys.
 M. V.—Mean Variation.
 N. E.—Number Epileptic Boys.
 W. B. E.—Weight Epileptic Boys.
 M. V.—Mean Variation.

No. G.—Number of Girls.
 W. G.—Weight of Girls.
 No. E.—Number Epileptic Girls.
 W. G. E.—Weight Epileptic Girls.
 Weights in pounds read to quarters.

HEIGHT

Table II. shows the height of the children, the measurements being read to millimeters, the children having their shoes on.

Plates III. and IV. show the height curves for boys and girls. The curves of both girls and boys are below the nor-

mal. The boys come nearest the normal at ten and fourteen years; the girls at ten years. The normal boys grow most rapidly from fourteen to sixteen years; the feeble-minded boys between thirteen and fourteen years; the normal girls between eleven and thirteen years. We notice a depression at fifteen years in both these plates, the same as in Plates I. and II.; similarly a high point at ten years.

In Plates III. and IV. the mean variation is greatest at the periods of most rapid growth. It is greatest for the feeble-minded boys except at seven, nine, eleven and twelve years; with the girls it is greatest except at thirteen, and equal at eight and nineteen years. With the boys the greatest variation is at ten, fifteen and nineteen years; with the girls at ten and fourteen years.

Plate V. compares the heights and weights of the boys and the girls. Among normal children the boys are taller than the girls between eleven and twelve, and from fourteen years on, the girls being the tallest and also the heaviest from twelve to fourteen.

With the feeble-minded children the girls only exceed the boys at eight and thirteen years, in height, and at ten, seventeen and from twelve to fifteen, in weight, in this last period agreeing with normal children.

The curve of height of the epileptic boys exhibits the same characteristics as their weight curve.

NOTES.

Dr. G. G. Tarbell, in Vol. I. of Proceedings of Association of Medical Officers of American Institutions for Idiotic and Feeble-Minded Persons (page 188), has given a diagram showing the height and weight of the children in the Massachusetts school in 1881. And, although he does not give the number of children at each age from whom his results are deduced, yet the diagram is remarkably similar to ours. The children are

below the normal in height and weight; at ten years is a period of rapid growth, and at fifteen years a period of no change.

L. W. Kline, in his study of truancy,¹ has given diagrams exhibiting the growth in height and weight of truants as compared with the normal. It is similar to our Plates I. and III. in all essential characteristics.

Porter, in a similar study on St. Louis school children, finds that the brighter children are taller and heavier. Gilbert, in his work on Iowa school children, finds no such indication.

1.—Pedagog. Sem. Jan. '98, p. 405.

2.—Gilbert; op. cit., p. 34.

CONCLUSIONS.

1. A larger number of persons measured would make the curve more regular, but would not change its essential characteristics as pointed out.

2. Feeble-minded children are subnormal in height and weight.

3. They are nearest normal at ten years. All the charts show the ten-year point to be one of rapid growth.

4. The depression at fifteen years in all the curves would indicate a delayed puberty in part of the children.

5. Development is delayed among the feeble-minded. They continue growing later than normal children.

6. A high mean variation is characteristic, indicating probably a delayed development, and a spent vital force.

7. The curves showing height and weight of girls are more regular than those of the boys, indicating a closer conformity to type.

8. Epileptics are nearer normal than the feeble-minded, and their development is not delayed as much. The fact that they exceed the normal at several periods would be favorable to Ohlmacher's pathology of idiopathic epilepsy.

TABLE II.—HEIGHT.

Age.	No.	H. B.	M. V.	No. E.	H. B. E.	M. V.	No. G.	H. G.	M. V.	No. E. G.	H. G. E.	M. V.
1												
2	1	897					1	752				
3	1	826										
4							1	902				
5	2	1003	61				3	982	48			
6	3	1083	45	1	954	2	2	1066	13			
7	6	1133	37				4	1080	84			
8	5	1192	44	1	1242		6	1198	40	1	1230	
9	3	1240	35	3	1429	113	9	1222	88			
10	9	1340	31				8	1320	132	1	1347	
11	14	1341	30	4	1381	58	8	1270	92			
12	9	1397	40	2	1524	30	6	1346	92	3	1400	120
13	14	1373	74	4	1492	54	9	1369	60	1	1508	
14	16	1530	87	4	1573	53	9	1458	123	3	1559	94
15	7	1497	97		1669	84	9	1453	95			
16	9	1585	66	1	1470		13	1501	107			
17	10	1585	64	1	1613		12	1530	70			
18	10	1645	45	3	1695	33	9	1531	60	2	1554	10
19	8	1659	60	1	1724		9	1511	34	1	1592	
20	8	1695	68	3	1628	81	9	1538	83	2	1556	78
21	5	1592	58	2	1781	33	12	1542	92	2	1584	74
22	3	1754	21	2			10	1571	82	4	1681	53
23	9	1663	59	5	1622	39	3	1539	50			
24	1	1433		2	1635	52	5	1532	96			
Whole No.	153			44			157			20		

No.—Number Boys.
 H. B.—Height Boys.
 M. V.—Mean Variation.
 No. E.—Number Epileptic Boys.
 H. B. E.—Height Epileptic Boys.

No. G.—Number Girls.
 H. G.—Height Girls.
 No. E. G.—Number Epileptic Girls.
 H. G. E.—Height Epileptic Girls.
 Heights read in millimeters with shoes on.

