

GROWTH AND DEVELOPMENT OF MENTALLY DEFICIENT CHILDREN IN THE REGIONS OF THE SZABOLCS-SZATMÁR COUNTY

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Abstract: In 1976-1981 the author studied growth and development of 1246 children with mental deficiency (715 boys, 531 girls) from 7 to 16 years of age. Based on her data, the children investigated can be divided into three different groups: (1) feeble-minded (72.49%), (2) imbecile (19.46%) and (3) idiot (8.05%).

A comparison of the three groups resulted in some differences in relation to body development dependent on mental deficiency. There are significant differences in the function of socio-demographic factors, age of the mother, and birth weight of the children.

Keywords: Growth and development, Birth-weight, Socio-demographic factors.

In this paper the author wants to demonstrate the body development of the feeble-minded, imbecile and idiot children in Szabolcs-Szatmár county, analyzing their most characteristic body measurements. She shall analyze the relationship between the mother's age and their infant's birth-weight, and demographic factors as factors having an active role in the development of mental deficiency.

Material and Methods

Since 1976 we have carried out our research in educational establishments for mentally deficient children, auxiliary schools, auxiliary classes and establishment of health in the Szabolcs-Szatmár county.

Using Martin's prescriptions (Martin-Saller 1957-66) we have investigated 1246 children with mental deficiency from 7 up to the age of 16 included 909 feeble-minded (72.49%), 244 imbeciles (19.46%), and 93 idiots (8.05%). 56% of them were males and 44% females.

Results and Discussion

Mother's profession

The majority of mothers are working at home (44.73-57.02%). Those who have a job are working as unskilled workers or helpers especially in agriculture. Only a few of those working as unskilled workers/helpers are mentally deficient. 20% of the total number are those working in the fields of industry and agriculture and only 1.7-2.3% of them are doing intellectual work. The average of mentally deficient children brought up and educated under state care is very high in all of the three groups (26.84-33.71%).

In spite of any favourable changes that have occurred in the social and demographic fields of Szabolcs-Szatmár county, the gipsy population living under bad conditions and consists of 7.3% of the total population of Szabolcs-Szatmár county, resulting in unfavourable effects on the county. The number of *gipsy pupils* taking part in our research is very high. We can find the major part of the feeble-minded and idiot children among them.

Mother's age

The mother's age as a biological and demographic factor can have a certain influence over the developmental process of uterogestation (Moore 1968, Illsley 1967). The birth of mentally deficient children in Szabolcs-Szatmár county generally occurs with women at the age of 20 to 34, but the frequency of those giving birth at a younger or older age is much higher (12% and 20%, resp.) than the average in Hungary.

Analysing the *birth of children* in chronological order we can see that imbeciles and idiots are the first-born. The majority of the feeble-minded are the 4th–5th born. There are some connections between the birth-weight and the mental development of children (Dann et al. 1964, Illey et al. 1971, Drillien 1959). New-born under the weight of 2500 g are often mentally deficient. In our sample 19.38% of feeble-minded children, 26% of imbeciles and 40.68% of idiots were born under-weight.

The author wants to demonstrate the characteristics of body development and the changes of the age groups of mentally deficient children, analyzing their body-height, body-weight and chest circumference. From the great number of anthropometric studies published in Hungary (and abroad) the author used the data from the Szabolcs-Szatmár county; this way the environmental factors influencing growth and development of children (both healthy and mentally deficient) are similar. These data from the geographic region of Rétköz (Szabolcs-Szatmár county, Nyilas 1978) was used as a „group of normal children” in this work.

Body-Height

The mean-values of the children's mental deficiency fall behind the normal means at any age group. Depending on the seriousness of the children's deficiency the level of backwardness proves to be changeable. The greatest deviation can be observed in the idiots, both boys and girls (Table 1). The growth trend of feeble-minded children represents a similar trend of development to normal children (Fig. 1). The prepubertal and pubertal growth impulse at the age of 9–10 and 12–13 can be principally observed in the girls. The periodicity of growth within the age groups can also be observed in the female imbeciles but the time of pubertal changes occurs a little later, at the age of 10–11 and at 13–14. In male imbeciles and female and male idiots the growth develops with changing intensity, deviating from the periodicity of normal age groups.

Body-weight

The body weight falls behind that of the normal children in each group mentally deficient children, both boys and girls (Fig. 2). Depending on the seriousness of deficiency the children's weight trends to decrease. The least value of body weight can be observed in the idiots.

In respect of the children's sex, the males overbalance the females except in the case of the idiots. The characteristic periodicity of body weight can be observed in the feeble-minded. The growth impulse emerges at the age of 9–10 and 12–13 for girls and 10–11 and 14–15 for boys (Table 2). For the idiots as a whole, and for the male imbeciles, the growth of body weight is changeable in different age groups. Characteristic periodicity of growth for different age groups can not be proved.

Kaup-index

The Kaup-index values for the feeble-minded emerge as the nearest to normal values (1.54–2.09). They change at the values 1.2–1.8 in the idiots. Kaup-index changes prove to be quite different in the age groups of idiots and imbeciles (Table 3).

Table 1. Parameters of height

Age (year)	Feeble-minded			Imbecile			Idiot		
	n	\bar{x}	s	n	\bar{x}	s	n	\bar{x}	s
Boys									
7	10	116.17	9.73	9	120.68	11.28	4	101.20	0.70
8	41	122.03	8.67	12	117.01	9.21	9	109.71	7.11
9	65	128.34	6.96	10	119.41	5.82	—	—	—
10	55	131.49	6.02	19	123.93	9.88	5	126.86	7.93
11	39	138.29	8.96	11	132.33	8.03	5	126.76	6.72
12	85	143.31	8.36	17	130.84	11.29	6	129.50	8.06
13	67	148.43	8.65	26	143.34	9.27	6	131.95	9.12
14	66	164.75	8.84	23	141.83	10.00	6	147.12	6.70
15	66	160.65	7.69	9	141.78	7.89	8	151.02	9.94
16	36	164.78	8.92	11	155.78	18.07	11	148.71	12.07
Girls									
7	13	120.74	15.40	7	108.08	6.89	4	102.16	12.79
8	36	120.63	5.09	16	119.87	6.90	1	154.00	—
9	46	125.04	8.33	9	119.05	6.63	5	107.65	5.44
10	48	133.35	7.03	8	127.15	7.15	1	112.30	—
11	54	140.53	8.10	7	136.16	18.45	4	119.40	8.91
12	62	143.45	10.04	14	141.46	12.92	9	126.60	1.83
13	59	150.59	7.89	9	143.47	10.09	—	—	—
14	39	151.51	6.49	12	148.22	6.75	1	119.70	—
15	36	154.88	7.39	8	151.25	12.27	1	145.70	—
16	7	153.81	9.95	7	156.82	8.11	—	—	—

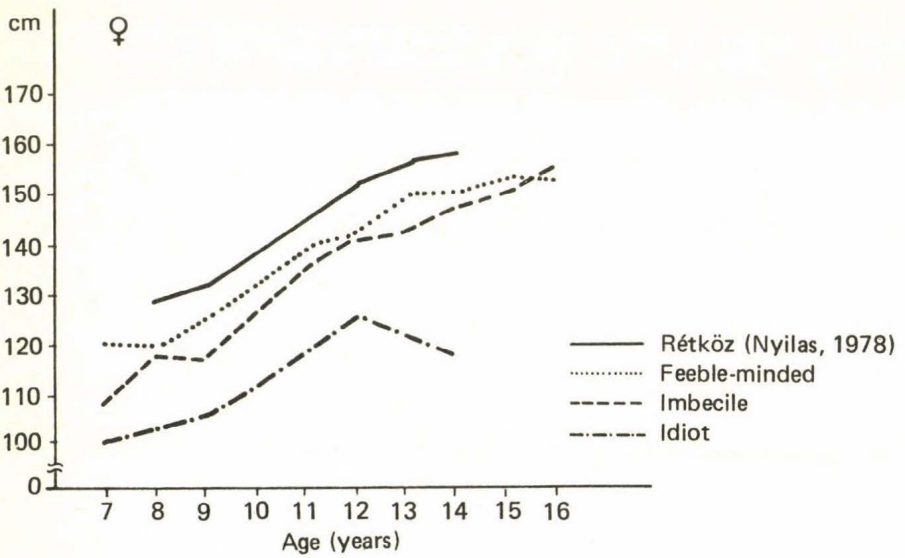
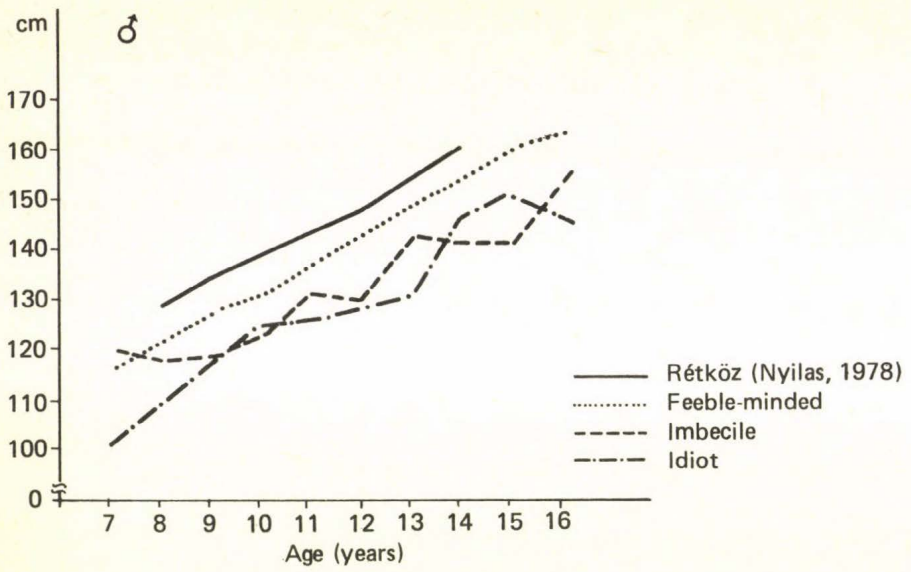


Fig. 1: Height of mentally deficient children

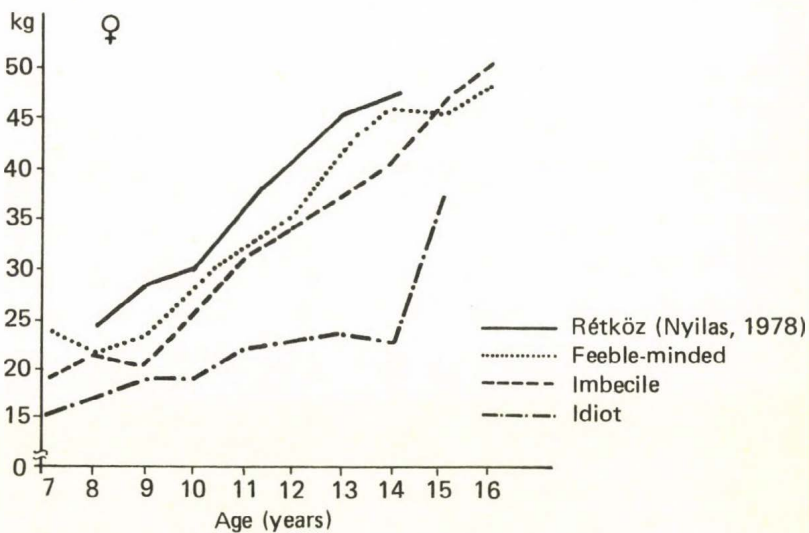
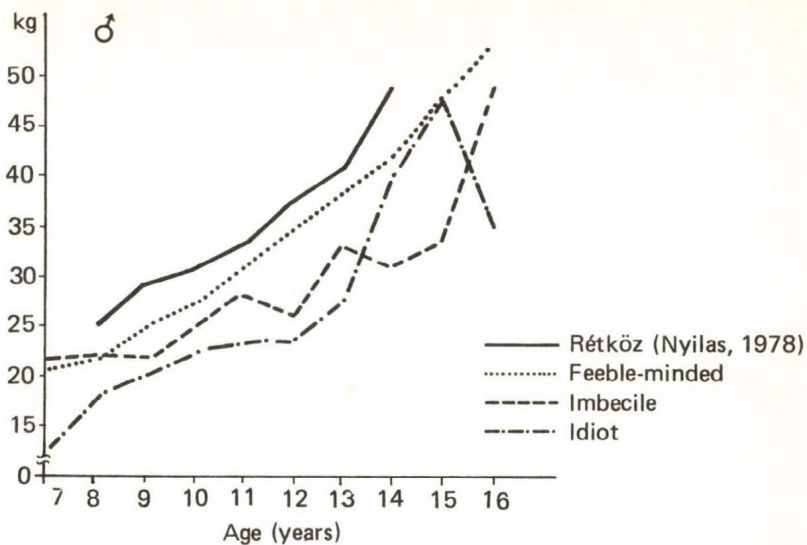


Fig. 2: Weight of mentally deficient children

Table 2. Parameters of weight

Age (year)	Feeble-minded			Imbecile			Idiot		
	n	\bar{x}	s	n	\bar{x}	s	n	\bar{x}	s
Boys									
7	10	20.98	3.80	9	21.14	2.73	4	12.75	1.76
8	41	22.99	4.14	12	22.95	10.92	9	17.08	1.11
9	55	26.04	3.49	10	21.44	2.21	—	—	—
10	55	27.34	4.47	19	25.32	4.01	5	22.16	3.32
11	39	31.51	7.34	11	28.63	5.73	5	23.33	4.04
12	85	35.00	6.56	17	26.85	4.60	6	23.25	3.88
13	67	38.37	9.03	26	33.96	7.45	5	27.00	9.89
14	56	42.70	9.01	22	31.85	5.89	5	40.00	11.66
15	66	48.64	9.27	9	33.43	6.95	8	48.50	11.20
16	36	53.10	10.98	11	49.90	6.00	11	35.55	12.58
Girls									
7	13	24.07	10.80	7	18.60	2.30	4	15.00	4.24
8	36	22.20	3.80	16	22.83	3.73	1	78.00	—
9	46	23.57	3.93	9	20.85	4.05	5	18.50	3.53
10	48	28.47	5.81	8	25.00	6.23	1	17.00	—
11	64	32.77	8.28	7	31.50	15.98	9	22.00	11.31
12	62	35.67	8.51	14	34.75	7.87	3	22.50	2.12
13	58	42.95	10.53	9	37.66	12.10	1	26.00	—
14	39	46.62	9.50	12	40.90	7.58	1	25.00	—
15	36	45.20	7.93	8	46.00	12.35	1	37.00	—
16	17	48.16	10.24	7	51.80	15.35	—	—	—

Table 3. Parameters of the Kaup-index

Age (year)	Feeble-minded			Imbecile			Idiot		
	n	\bar{x}	s	n	\bar{x}	s	n	\bar{x}	s
Boys									
7	10	1.54	0.10	8	1.47	0.28	4	1.24	0.15
8	41	1.53	0.12	12	1.61	0.43	9	1.40	0.17
9	55	1.51	0.11	10	1.50	0.14	—	—	—
10	55	1.57	0.19	19	1.60	0.18	5	1.37	0.09
11	39	1.62	0.19	11	1.61	0.16	5	1.44	0.09
12	85	1.69	0.17	17	1.56	0.15	6	1.38	0.06
13	67	1.71	0.27	26	1.63	0.19	5	1.52	0.35
14	56	1.78	0.23	23	1.56	0.11	5	1.82	0.36
15	66	1.87	0.25	9	1.64	0.19	8	1.64	0.35
16	36	1.93	0.26	11	2.20	0.83	11	1.60	0.30
Girls									
7	13	1.58	0.25	7	1.53	0.09	4	1.42	0.50
8	36	1.61	0.16	11	1.58	0.21	1	3.27	—
9	46	1.60	0.15	9	1.46	0.15	5	1.61	0.46
10	48	1.68	0.21	8	1.52	0.22	1	1.34	—
11	64	1.64	0.31	7	1.80	0.38	4	1.49	0.56
12	62	1.71	0.27	14	1.72	0.22	9	1.40	0.17
13	58	1.89	0.38	9	1.73	0.41	—	—	—
14	39	1.98	0.42	12	1.84	0.20	1	1.74	—
15	36	1.78	0.26	8	2.00	0.80	1	1.74	—
16	7	2.03	0.36	7	2.10	0.64	—	—	—

Table 4. Parameters of chest circumference

Age (year)	Feeble-minded			Imbecile			Idiot		
	n	\bar{x}	s	n	\bar{x}	s	n	\bar{x}	s
Boys									
7	10	58.77	4.58	9	60.63	3.57	4	55.60	7.53
8	41	60.55	3.13	12	61.87	9.96	9	59.81	1.72
9	55	62.02	3.20	10	61.06	2.40	—	—	—
10	55	64.48	4.24	19	64.48	4.10	5	58.53	2.57
11	39	66.90	5.43	11	66.00	2.90	5	62.00	2.64
12	85	69.18	4.91	17	60.60	3.41	6	63.25	3.88
13	67	70.45	5.09	26	69.84	5.09	5	63.20	4.00
14	56	74.55	6.02	23	71.80	4.89	5	74.25	7.92
15	66	79.36	6.68	9	70.78	8.04	8	72.70	4.52
16	36	81.09	6.63	11	80.45	6.30	11	73.27	6.13
Girls									
7	13	60.78	8.35	7	56.52	3.96	4	56.75	5.30
8	36	60.02	3.87	16	62.70	5.10	5	89.10	11.17
9	46	60.62	3.21	9	60.81	3.90	5	60.00	2.82
10	48	64.42	4.48	8	64.00	7.01	1	59.00	—
11	64	67.14	6.06	7	69.00	9.55	9	66.85	10.11
12	62	69.94	5.60	14	72.08	6.18	3	63.40	5.09
13	58	75.02	7.17	9	73.55	10.61	—	—	—
14	39	77.39	7.34	12	77.09	4.15	1	66.00	—
15	36	76.89	6.42	8	81.80	8.40	1	75.50	—
16	7	78.64	4.99	7	80.30	10.03	—	—	—

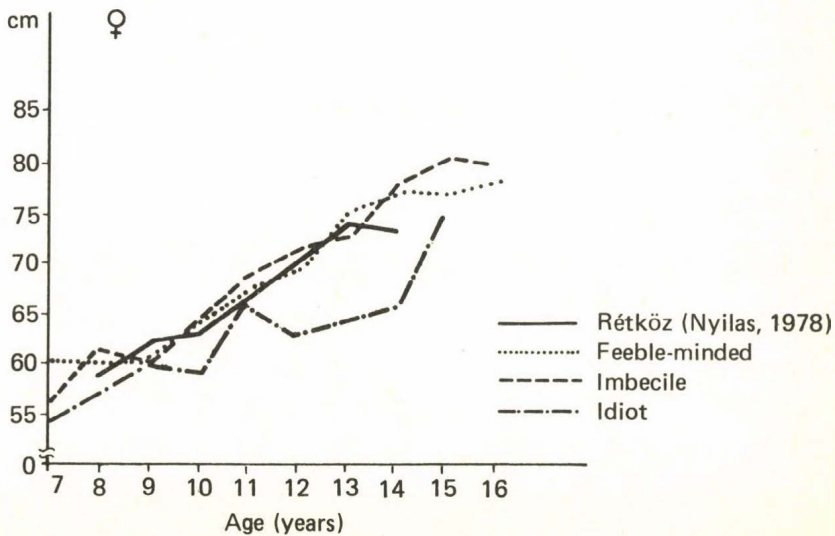
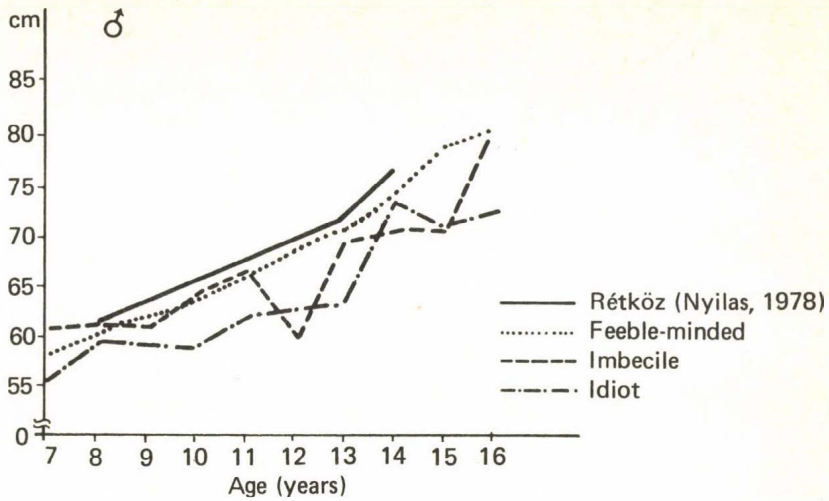


Fig. 3: Chest circumference of mentally deficient children

Chest circumference

The chest circumference gives different results from the other body measurements. The retardation from normal values is especially characteristic in boys, whose deviation depends on the seriousness of their deficiency (Fig. 3). Concerning the girls, only the idiots fall behind the normal but the pubertal and prepubertal growth impulses can also be observed in the feeble-minded and imbecile girls (Table 4).

Heterogeneity was demonstrated by Bartlett-testing for the values of body-measurements of children belonging to the three groups. The body weight and height are $P < 0.1$ for boys at the age of 8, 9 and for girls at the age of 8, 10, 13. The features which possible heterogeneity corresponded to a certain systematic character. The analysis has been carried out by F- and t-testing. There were no significant differences in the results.

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