

A somogy megyei 10–15 éves tanulók biológiai fejlettsége és fizikai erőnléte a XX. század végén (PhD értekezés tézisei)

Biological development and physical fitness of 10 to 15-year-old children in County Somogy at the end of the 20th century (in Hungarian)

Anthropologiai Közlemények 44 (2003), 111–118.

Suskovics Csilla

Kaposvári Egyetem, Csokonai Vitéz Mihály Pedagógiai Főiskolai Kar, Testnevelés Tanszék, Kaposvár

Abstract: A cross-sectional growth study in 3377 children living in County Somogy was carried out in 1995–97. The aim of this study was (1) to identify and analyse body measurements and maturation of 10- to 15-year-old children at the end of 20th century in County Somogy; (2) to analyse secular changes in growth and maturation in Kaposvár during the 20th century, to compare these data with the standards of Hungarian National Growth Study (HNGS), carried out in the middle of the eighties and within the County Somogy results; (3) to assess the children's physical fitness, to compare their performance with the reference values of the HNGS and those of the County Somogy, to analyse the relationship between body development, sexual maturity and physical performance.

The new scientific results are as follows:

(1) Figures of body development of 10- to 15-year-old children, observed in the late nineties of the last century have been calculated. These show that the pubertal growth spurt is around the age of 11–13 in girls and around the age of 12–14 in boys in county Somogy today. In county Somogy not only girls, but also boys tend to mature sexually earlier than the national average and earlier than in most regions of the country. The age at menarche for girls is $m=12.70$ yrs, boys' age at oigarche is $m=13.17$ yrs.

(2) Secular changes in growth and maturation have all shown a positive trend in Kaposvár throughout the last century. The results of the last survey demonstrate that this trend is slowing down, significant socio-economical changes are in the background of this phenomenon. In our days children in county Somogy are heavier and taller than the county and the national average of 15 years ago. Growth changes show positive trends in length, trunk breadth and trunk circumference measurements. The breadth and circumference measurements of the limbs show practically no change. Skinfold thickness in girls, except the subscapular skinfold, has decreased but all average values are still higher than the national average except that of the calf skinfold. At same time the values of skinfold thickness of boys have exhibited a further slight increase. They exceed the national average in each measurement. The age at menarche has become higher during 15 years. This indicates a negative trend in the course of changes of sexual maturity.

(3) In county Somogy, the boys' physical performance is better in all tests than that of the girls. This is caused by their different biological and social backgrounds. The difference between the two sexes' performance is the smallest at the age of 12. This is due to the fact that girls' body development, maturity, the pubertal growth spurt in growth and maturation, and in consequence, increase of motor performance sets in earlier than in boys. After elapse of 15 years, the children show an improved performance in almost all physical tests, as compared to the earlier survey in Somogy. On the basis of the results it can be declared that boys and girls in county Somogy generally showed a physical fitness exceeding the national average in the late nineties. The more mature children's body measurements are bigger in both sexes. In performance tests where absolute strength is decisive more mature girls do better, while in the other tests where relative strength is dominant they perform equally or poorer. The more mature boys exhibit better results than their less mature contemporaries except the Cooper-test (basic endurance).

Keywords: Growth; Development; Body measurements; Maturation; Secular changes; Physical fitness; Changes in growth, maturation and physical performance.