

### SECULAR VARIABILITY OF HEAD SIZES IN BELARUSIAN CHILDREN (MINSK)

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The trends in variability of general head sizes (head circumference, longitudinal diameter and transverse diameter) and the shape of head (cephalic index) in 4–17-year-old children of Minsk over the last 80 years (1920–2000) are analyzed. In 1980–2000 a significant increase of all indices was revealed. Head circumference in the older age groups is bigger in the children of 1980 in comparison to those of 1920 – by 2.16–3.09 cm longer in boys, 2.42–3.14 cm in girls; longitudinal diameter – by 1.40–1.85 cm and 1.14–1.30 cm respectively; transverse diameter – by 0.82–1.35 cm and 0.69–0.83 cm respectively. At the same time the head index reduced during the period of 1920–1980: by 1.32–1.88 in boys and 0.62–1.83 in girls. A significant growth of general head sizes was completed in 1980–2000. If there were some variations in head circumference and longitudinal diameter in children of different age during these 20 years (first some reduction, then some increase), the transverse diameter reduced at all ages. The reduction of the cephalic index continued in 1980–2000 due to a more intensive reduction of the average values of the head breadth in comparison to the head length. So some changes in head shape and sizes in children of Minsk were observed during 80 years: the process of dolichocephalization (or debrachycephalization), i.e. a decrease of the head index (the ratio of the transverse diameter to the longitudinal one) was revealed. If in 1920–1980 this process took place together with the increase of head sizes, then in 1980–2000 both longitudinal and transverse diameters were reduced, the decrease of the transverse diameter being more significant.

**Key words:** *head sizes, dolichocephalization, Belarusian children*

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### DOES BIRTH ORDER REALLY MATTER? ASSOCIATION WITH ANTHROPOMETRICS IN CHILDREN FROM THE GREATER BILBAO (SPAIN)

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Birth order has been related to the anthropometric variation both in children and adults, but the evidence is still inconsistent. Examining the relationship in different populations may lead to improved insight. We aim to determine the associations between birth order and a set of anthropometric traits defining body morphology and composition. The sample consisted of 847 children (219 years) from 533 nuclear families living in the Greater Bilbao (Spain). Simple measures and derived variables [stature, iliospinal height, weight, body mass index (BMI), trunk/extremity skinfolds ratio (TER), sum of 4 circumferences (CC4), sum of 6 skinfolds (SF6), and the three components of the HeathCarter's anthropometric somatotype (endomorphism, mesomorphism and ectomorphism)] were zscored for age, separately by sex. Associations were analysed using linear multivariate regression models controlling for different covariates and p-values were adjusted for clustering of siblings within families. Overall, very few associations were statistically significant at  $p < 0.05$ . Thirdborn boys were associated with greater iliospinal height zscore (0.38,  $p = 0.04$ ) and stature zscore (0.37,  $p = 0.06$ ) than firstborns. After adjustment for parental education, secondborn girls showed reduced SF6 (0.21,  $p = 0.32$ ) and endomorphism zscores (0.20,  $p = 0.37$ ) but greater ectomorphism (0.19,  $p = 0.05$ ) than firstborns. Additional adjustment for maternal age slightly attenuated the associations. In conclusion, birth order showed a tendency towards a positive association with vertical dimensions in boys and negative with adiposity in girls. Our findings do not support an association of birth order with weight, BMI, TER, mesomorphism and CC4.

**Key words:** *anthropometrics, birth order, body composition, children, siblings, vertical dimensions*

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