

Author: Kotsedi Daniel Monyeki

Topic: Community health and nutrition programs

Title: STABILITY OF SOMATOTYPES: A LONGITUDINAL STUDY OF ELLISRAS RURAL BOYS

Presentation Type: Oral

Background and Aims: Physique has been useful in assessing the outcomes of underlying growth and maturity processes, which leads to a better understanding of variation in both child and adult physique. The aim of this study was to investigate the stability of somatotypes in 942 Ellisras rural boys aged 6.9 to 13.3 years who are part of the Ellisras Longitudinal study. Method: Anthropometric measurements taken twice yearly according to the protocol of the International Society for the Advancement of Kinanthropometry. The Heath-Carter anthropometric somatotypes were calculated. Somatotype ANOVAs for repeated measures were calculated using SADs between adjacent interval to examine any significant changes in three-dimensional distances between individual and group somatotypes. Results: Mean somatotype and somatotype attitudinal means were 1.9-2.9-4.2 (1.4), 1.9-2.6-4.0 (1.2), 1.9-3.1-4.4 (1.2), 2.3-2.8-4.3 (1.2), and 2.0-3.2-4.3 (1.1) at ages 6.5, 7.0, 7.5, 8.0 and 8.5 years respectively. The mean somatotypes shifted from balanced ectomorphy to mesomorphic ectomorph and vice versa over time. The average migratory distance (MD) was 6.1. The most stable boy had an MD of 2.3 and the least stable boys in the sample had an MD of 15.3. Conclusion: Endomorphy and ectomorphy had high significant inter-age partial correlations ($r > 0.70$) while mesomorphy exhibited low insignificant partial correlation ($r < 0.70$). The stability of somatotype components in Ellisras rural boys was evaluated in the light of fluctuations between ectomorphic mesomorph and balanced ectomorphy. An investigation into the dietary intake will shed more light in the fluctuation of the physique of this children.