Analysis of Daasanach growth in relation to ecology and subsistence strategy

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Body size is highly variable among modern human populations, as it is influenced by the interactions between genetic information and external nutritional and environmental variables during growth. Across traditional societies a relationship between life history strategy, relative adult body size, and extrinsic variables (e.g. ecology, subsistence strategies) has been documented and serves as a theoretical foundation to explain observed variability. However, individual populations are known to deviate from this pattern. Cross-sectional data on height and weight were taken from an ontogenetic sample of Daasanach individuals (n=223) from Ileret, Kenya to test the null hypothesis that the Daasanach conform to the expected growth timings and adult body size parameters for traditional populations of similar ecologies and subsistence strategies. Mean adult male body size was compiled from twenty previously studied traditional societies among which stature differed significantly among ecological groups. Our results indicate that Daasanach mean adult male height falls within the parameters for the group of ecologically similar populations (savanna, desert, dry forest; Z score=1.46), and falls beyond the group of ecologically dissimilar populations (tropical and neotropical forest, coastal; Z score=4.04). Additionally, the Daasanach obtained a lower percentage of adult stature and mass at age 10 compared to other populations, suggesting a delayed growth trajectory. Our results demonstrate that although the Daasanach males attain an adult stature consistent with predictions based on ecology, they may deviate from expected growth during juvenile development. Continued research is required to fully understand the relationship between body size and life history strategy.

This work was supported by the George Washington University's Luther Rice Collaborative Fellowship to KR, and NSF BCS-1128170 to BR.