candidate SNPs that may shape both hair and dental morphological variation. Future studies will explore the validity of the current findings in the context of a genome-wide association study.

The correlation between geographic distance and macaque skeletal morphology

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Aside from humans, macaques are the most geographically widespread primate genus, living throughout Eurasia and northern Africa. However, the extent to which geographic distance correlates with macaque morphology is relatively unknown. Here we tested how well different aspects of the macaque skeleton reflect geography.

Data included 3D surface scans from nine species (*M. arctoides, M. fascicularis, M. fuscata, M. mulatta, M. nemestrina, M. nigra, M. radiata, M. sylvanus,* and outgroup *Trachypithecus cristatus*) representing different geographic locations for 297 individuals. Fixed and semilandmarks (*n*=293) were applied to eight skeletal elements for each individual (crania=45; mandible=31; scapula=66; humerus=38; radius=33; os coxa=28; femur=40; tibia=40), a regression analysis minimized the effects of sexual dimorphism, and the residuals were transformed into pairwise Euclidean distance matrices. A geographic distance matrix was calculated as the pairwise great circle distances between average latitude and longitude coordinates for each species. The two matrices were used as primary input variables for Mantel tests, assessing the significance between geographic and morphological distance. Least-squares Procrustes rotation based on 2D MDS plots were used to visualize how well geographic and morphological centroids tracked each other.

Results suggest that macaque morphology is correlated with geography, where some species like African *M. sylvanus* and Japanese *M. fuscata* more closely track their relative geographic position than southern-dwelling macaques. The innominate correlated the best with geography while the scapula correlated the worst. Thus, as primates continue to move and evolve in new locations due to changing climates, it is worth remembering the effect of geography on morphology.

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Early life adversity during the post-apartheid transition and COVID-19 stress independently predict adult post-traumatic stress disorder risk in urban South Africa

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The coronavirus disease 2019 (COVID-19) pandemic in South Africa introduced new societal adversities and mental health threats in a country where one in three individuals are expected to develop a psychiatric condition sometime in their life. Growing evidence has highlighted the role of early life adversity in exacerbating future adult mental illness, yet the pathways underlying this association are not well known. Scientists have suggested that psychosocial stress and trauma exposure during early childhood development may increase one's vulnerability to the mental health impacts of future stressors later in life – a process known as stress sensitisation. While this mechanism has been well evaluated in high-income, Western contexts, a small handful of studies have examined the stress sensitisation hypothesis in low- and middle-income settings and have largely relied on retrospective data. This analysis assesses the role of early life adversity experienced among South African children at age 5 (c. 1995) during the post-apartheid transition in exacerbating the mental health impacts of stress and trauma experienced during the COVID-19 pandemic in Soweto, South Africa (c. 2020-2021). Participants come from a longitudinal birth cohort study based in Soweto, South Africa. We find that greater childhood adversity and higher stress exposure during COVID-19 independently predict worse post-traumatic stress disorder (PTSD) symptoms risk in adults. Our results, however, show that early adversity at age 5 does not potentiate the mental health effects of greater COVID-19 stress in adulthood at age 30-31, suggesting null evidence for the stress sensitization hypothesis.

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Allometric scaling of maxillary sinus volume in modern humans

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Previous studies have questioned whether maxillary sinus (MS) volume scales isometrically, with some researchers hypothesizing that differences in MS volume may be associated with predictable alterations in MS shape. However, this allometric hypothesis has not been directly tested. Accordingly, this study assessed MS volume scaling patterns employing CT scans of crania ancestrally derived from three geographic regions: Europe (n = 54), Equatorial Africa (n = 58), and East Asia (n = 50). Using 3DSlicer, six 3D coordinate landmarks were collected from the left MS, from which linear measurements of MS height, width, and length were calculated. MS volume was then obtained by semi-automated segmentation of the sinus. Across-group and pooled within-group multivariate regression analyses were conducted to test for volume-associated 3D shape transformations. Results indicate that individuals with larger MS volumes exhibit relatively wider, taller, and anteroposteriorly shorter sinuses than those with smaller MS volumes, in both across-group ($r = 0.57$, $p < 0.0001$) and within-group analyses ($r = 0.49$, $p < 0.0001$). Further, a multiple regression analysis employing linear measurements indicates that differences in MS width ($\beta = 0.43$, $p < 0.0001$) contribute considerably more to variation in MS volume than MS height ($\beta = 0.32$, $p < 0.0001$) or length ($\beta = 0.31$, $p < 0.0001$). These results support previous suggestions that MS volume scales allometrically. As such, future studies of MS morphology should account for differential patterns of volumetric distribution (i.e., shape) rather than exclusively focusing on volume alone.

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Growth of the eyes and nasal airways in *Aotus nancymaae*

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Within the integrated tissues of the head, the pace of growth of soft tissue organs has a transformative effect on skeletal anatomy of the skull. Individual organs can act as modular drivers that influence characteristics such as basicranial angulation and facial orientation. Here, we measured the volume of the eyes, nasal airways, and paranasal spaces in a newborn and adult owl monkey (*Aotus nancymaae*) using diceCT scans of one adult and one newborn. Through segmentation via Amira software, we reconstructed the eyes and nasal airways, and then obtained volume using the Material Statistics function. The preliminary data suggest the nasal airway increases 11x from newborn to adult; in contrast, the maxillary sinuses present with 25x growth and pneumatized spaces overall (maxillary, frontal, and cupular sinuses) increase 100x. In comparison, the eyes of *Aotus* increase 9x from birth to