

ABSTRACTS

teeth from panoramic radiographs of 880 London children 3–22.99 years of age stratified by year of age, sex, and Bangladeshi or European ancestry. Hypothesis 1 was tested on restricted multivariate cumulative probit models using plotting of variance coefficients. Hypothesis 2 was tested on unrestricted univariate cumulative probit using Bayes Factors on linear regression coefficients calculated for each individual stage transition across trials. Aside from large variance in M3, variance did not consistently increase or decrease within classes. Standard error of the variance increased distally within classes, but error bars were overlapping. When mean age-at-transition was regressed on standard deviation, the mean regression coefficients across stages were positive for all teeth, indicating increasing variation with increasing age. The largest Bayes factors were $PM1=554$ and $M2=122$. Developmental variation within tooth classes was neither inconsistent with CGI nor strongly supportive. Later age-at-transition was associated with larger standard deviations, but this association did not increase distally within classes. Evidence for CGI was therefore mixed.

Gait kinematics in response to substrate diameter and orientation in wild cercopithecoids

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Technological advances have made it possible to directly “field-test” functional associations between locomotor kinematics and natural substrate variation that are difficult to simulate in the lab, providing a deeper understanding of primate locomotor adaptation. Our recent work has addressed ecological and phylogenetic influences on quadrupedal kinematics in eleven platyrrhine species. We are expanding this research to include eight cercopithecoid and eight lemuriform species – an unprecedented field-based kinematic dataset. Here, we present preliminary data collected at Kibale National Park, Uganda, on *Cercopithecus mitis* and *Cercopithecus ascanius* ($n=42$ strides). We quantified quadrupedal gait kinematics from high-speed video and used remote sensing to measure substrate diameter and orientation. Both species used predominantly diagonal sequence gaits across all substrates, with *C. mitis* showing a higher frequency of lateral sequence gaits (*C. mitis*: 37% of strides; *C. ascanius*: 4% of strides). As with wild platyrrhines, *C. mitis* and *C. ascanius* did not adjust limb phase or gait type and showed variable speed adjustments in response

to changing substrate diameter. Neither species significantly adjusted limb phase in response to changing substrate orientation – a relationship that was variable among platyrrhines. Overall, these two cercopithecoid species exhibited relatively invariable kinematics in response to substrate conditions. Future analysis of additional cercopithecoids and a phylogenetic analysis of quadrupedal kinematics across broader primate clades are needed to confirm these results. This study confirms the consistent use of diagonal sequence gaits in quadrupedal primates and the robusticity of primate gait kinematics in response to the rigors of the arboreal habitat.

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Exploring sleep, health, and social threat among Indigenous Wixárika living in Guadalajara, Mexico

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Threats to “social safety” include loneliness, social conflict, devaluation, and exclusion and are known to contribute to multiple negative health outcomes, including increased inflammation, increased mortality, and worse health behaviors. Social threats have also been associated with poor measures of sleep health. Intriguingly, poor sleep itself can contribute to emotional dysregulation and social conflict, suggesting a feedback loop wherein social threat is worsened through its effect on sleep. However, data supporting these conclusions generally come from Western/Global North samples. Here, we test the relationship(s) between sleep, social threat, and emotional dysregulation in a small pilot sample ($n = 20$, 65% women, mean age = 33) of indigenous Wixárika from Guadalajara, Mexico. Objective sleep measures (total sleep time, sleep efficiency, and wake after sleep onset) were collected with CamNtech MotionWatch 8 devices, which participants wore for up to 30 consecutive nights. Subjective sleep quality, loneliness, social support, and emotional dysregulation were assessed by surveys. Subjective sleep quality, but not objective measures, correlated with higher loneliness ($r=0.51$, $p<0.05$) and emotional dysregulation ($r=0.49$, $p<0.05$) as well as worse physical ($r=0.49$, $p<0.05$) and mental ($r=0.60$, $p<0.01$) health. No relationship was found between emotional dysregulation

and social threat measures. The correlations remained when accounting for age and sex, but not physical or mental health. While additional data are needed to fully test our hypothesized model, results suggest a complex interplay between social threat and subjective – but not objective – measures of sleep and health.

The embodiment of farmwork in disease risk and immune function

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Food production is a dangerous 1.1 trillion-dollar industry in the United States that employs a largely marginalized workforce and reports the highest rates of injury and illness of any industry in the nation. Under the U.S. policy of “agricultural exceptionalism” (AE), farmwork occurs under limited labor regulations. As such, farmworkers experience social and physiological stressors known to impact health and immune function in combination, an amount not replicated by many industries. These stressors include social disruption, exposures to dangerous organic dusts, long work hours, and low wages. Here, we examine how farmwork is biologically embodied in workers by quantifying stressors and immune activity experienced by an Illinois farmwork force. With research associates and translators from aligned communities, we met with 59 farmworkers and surveyed them for stress type and load, collected blood, and retrieved agricultural dust samples from clothing. We also collected blood from 30 non-farmworkers. Farmworkers tended to be young, male, parents and without health coverage. Few H2A workers traveled with family. Approximately 50% of farmworkers were cost-burdened/severely cost burdened by housing, a signal financial stress. Nearly 70% of workers reported moderate/severe acute fatigue. LPS assays demonstrate that all had substantial