

ELECTRONIC APPENDIX

MATERIALS AND METHODS

There is little difference in the qualitative conclusions of our study whether we focus on pre- or post-contact Ache, or wild or captive chimpanzees. Post-contact Ache fertility is higher than pre-contact fertility (TFR=8.5 vs 8.0) and mortality is slightly lower (survivorship to age 15 is 0.73 at the reservation vs 0.66 in the forest). There is also no appreciable secular trend in Ache male or female body size over the past twenty years (Walker et al. In press). Using post-contact reservation period Ache fertility, mortality or body size would only increase the caloric demand of sub-adults on parents in further support of our interpretations.

We focus on captive chimpanzee growth because detailed age-specific information is publicly available. Growth data for wild chimpanzees are scant, although information provided by Pusey et al. (2005) on Gombe chimpanzees allows a very rough estimation of wild chimpanzee growth trajectory. Body size at ages 5, 10 and adulthood are 10, 21, 31 kgs for Gombe females and 10, 24, 39 kgs for males. Wild chimpanzee adults are smaller than captive chimpanzees, as well as Ache and Ju/'hoansi adults. For a more valid comparison with humans, we multiply the slopes of wild chimp growth over the range 0-5, 5-10, and 10-adulthood by a factor to reach Ache and Ju/'hoansi adult body sizes. Summed from birth to age 18, a human growing like a scaled-up wild chimpanzee is at least 85% as costly as when growing like a captive chimpanzee. Allowing all Ache and Ju/'hoansi dependents to grow according to this revised wild chimpanzee trajectory instead of the captive chimpanzee trajectory results in a total compound cumulative consumption of 74.9 and 24.7 Gcals, respectively. These estimates are 4.1 and 9.4 Gcals lower than those given in Table 2, and represent a 12.0% and 4.2% increase

above demand due to observed growth patterns. Reductions in savings are substantial for Ju/'hoansi because captive chimpanzees (especially males) grow larger than Ju/'hoansi sub-adults, even though this difference is minimized at later ages. Captive chimpanzees also mature 2-3 years earlier than wild chimpanzees. Captive chimpanzees show greater and faster growth, partially as a result of consistent and abundant provisioning by human care-takers. This analogy with human hunter-gatherer provisioning is appropriate. Captive chimpanzees represent a good model of faster, earlier growth that contrasts with the slower early growth of humans.

ADDITIONAL FIGURES

Figure A1. Growth velocity (kg/yr) based on three potential growth trajectories: observed female Dobe Ju/'hoansi, linear or constant growth and chimpanzee growth. Inset shows "distance curve" (body size estimates by age) for female Ju/'hoansi compared to linear and chimpanzee growth trajectories.

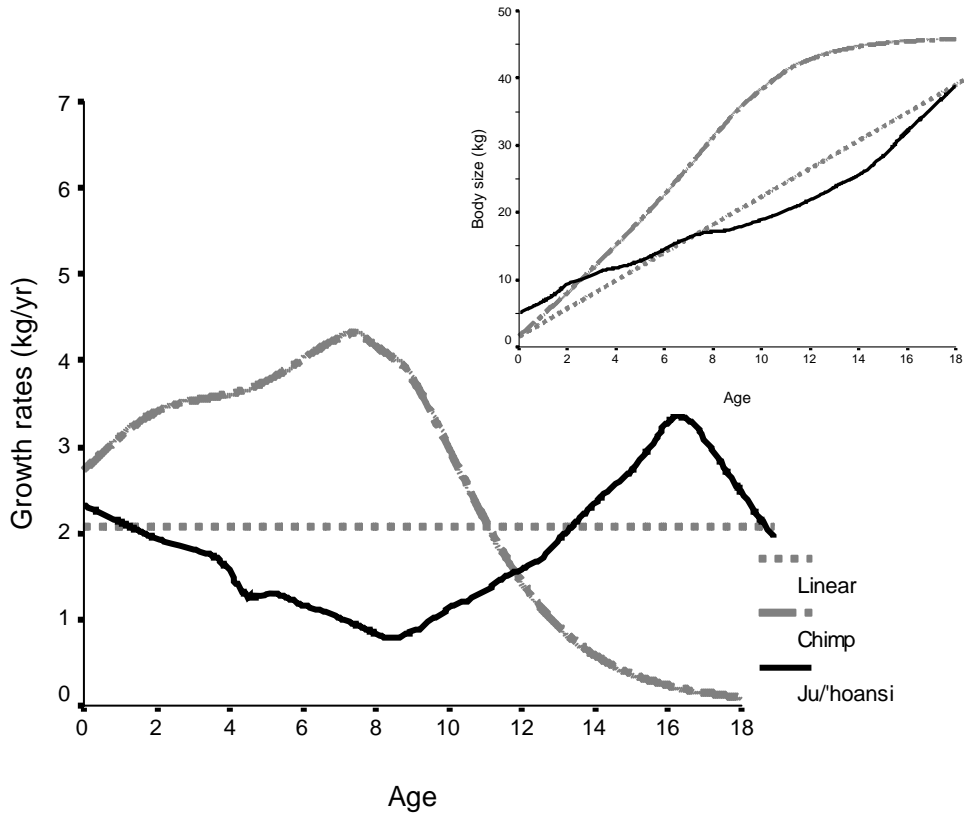
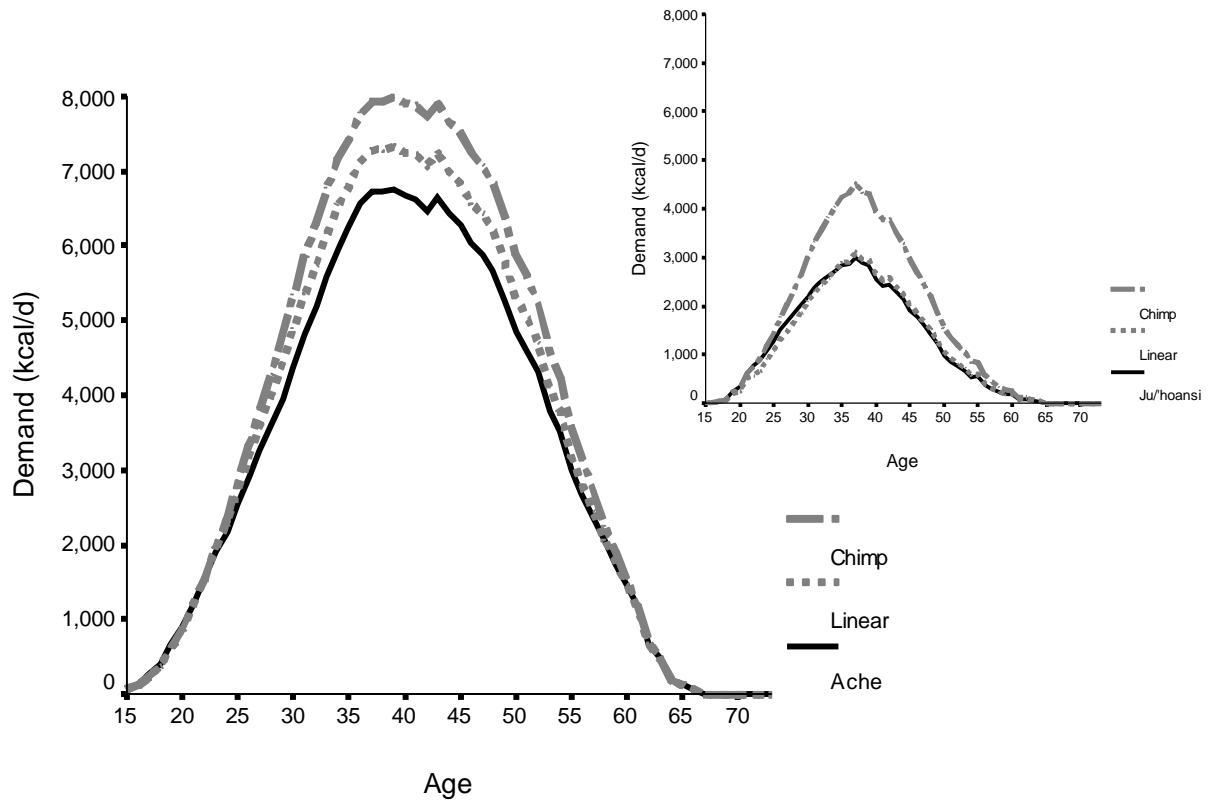


Figure A2. Total caloric demand on Ache and Ju/'hoansi (inset) mothers. Demand is total energetic consumption required of all dependents a woman has at each age, under observed, chimpanzee and linear growth regimes.



REFERENCES

- Pusey, A. E., Oehlert, G. W., Williams, J. M. & Goodall, J. 2005 Influence of ecological and social factors on body mass of wild chimpanzees. *International Journal of Primatology* **26**, 3-31.
- Walker, R., Hill, K., Burger, O. & Hurtado, A. M. In press Life in the slow lane revisited: Ontogenetic separation between chimpanzees and humans. *American Journal of Physical Anthropology*.