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Supplementary Materials for

The energetics of uniquely human subsistence strategies

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The PDF file includes:

Supplementary tables and figures

Table S1. TEE and TEE/BMR values for non-human great apes and other primates. Note that for all methods, TEE is equal to food energy acquired (E_a)**. "**Wild feeding observations" refers to estimates of TEE from daily energy acquisition in wild apes using observational focal-follow data on feeding and nutritional estimates of individual food items in the diet.

Species	Population	Sex	Body Mass (kg)	TEE Source	BMR* (kcal/d)	TEE (kcal/d)	TEE/ BMR
DLW-Based Regression							
Orangutan	wild	M	78.5	*Methods*	1098	1702	1.5
Orangutan	wild	F	35.8	*Methods*	821	1180	1.4
Gorilla	wild	M	170.4	*Methods*	2402	3506	1.5
Gorilla	wild	F	70.5	*Methods*	1354	1847	1.4
Chimpanzee	wild	M	40.4	*Methods*	1109	1675	1.5
Chimpanzee	wild	F	32.8	*Methods*	968	1478	1.5
Activity Budget Estimates							
Alouatta palliata	wild	M	8.5	*1*	363	428	1.2
Alouatta palliata	wild	F	6.4	*1*	293	343	1.2
Aotus trivirgatus	wild	MF	0.85	*1*	46	60	1.3
Ateles geoffroyi	wild	MF	8.41	*1*	346	415	1.2
Callicebus moloch	wild	MF	0.7	*1*	54	66	1.2
Cebus apella	wild	MF	2.6	*1*	143	185	1.3
Cebus albifrons	wild	MF	2.4	*1*	135	172	1.3
Saguinus imperator	wild	MF	0.4	*1*	35	45	1.3
Saguinus fusicollis	wild	MF	0.3	*1*	28	38	1.4
Saimiri sciureus	wild	MF	0.8	*1*	66	84	1.3
Cercocebus albigena	wild	MF	7.9	*1*	327	428	1.3
Colobus guereza	wild	MF	7	*1*	265	329	1.2
Macaca fasicularis	wild	MF	5.5	*1*	331	393	1.2
Papio anubis	wild	M	29.3	*1*	956	1281	1.3
Papio anubis	wild	F	13	*1*	520	699	1.3
Hylobates lar	wild	MF	6	*1*	292	342	1.2
Pan troglodytes	wild	M	39.5	*1*	1036	1510	1.5
Pan troglodytes	wild	F	29.8	*1*	839	1144	1.4
Gorilla gorilla	wild	M	162.5	*2*	3326	3977	1.2
Gorilla gorilla	wild	F	97.5	*2*	2255	2730	1.2

Pongo pygmaeus	wild	M	83.6	*1*	1948	2599	1.3
Pongo pygmaeus	wild	F	37.8	*1*	1074	1499	1.4
Symphalangus syndactylus	wild	MF	10.5	*1*	408	500	1.2

DLW Measurements

Microcebus murinus	Wild	MF	0.064	*3*	9	28	3.3
Lepilemur ruficaudatus	Wild	MF	0.77	*3*	57	121	2.1
Eulemur sp.	Wild	MF	1.84	*3*	110	146	1.3
Lemur catta	Wild	MF	2.24	*3*	128	146	1.1
Propithecus diadema	Wild	MF	4.9	*3*	232	346	1.5
Alouatta palliata	Wild	MF	7.12	*3*	308	602	2.0
Papio cynocephalus	Wild	MF	12	*3*	458	813	1.8
Callithrix jacchus	Captive	MF	0.45	*3*	38	51	1.4
Lemur catta	Captive	MF	2.21	*3*	126	217	1.7
Macaca radiata	Captive	MF	4.2	*3*	206	251	1.2
Allenopithecus nigroviridis	Captive	MF	7.9	*3*	333	524	1.6
Macaca mulatta	Captive	MF	14.4	*3*	526	607	1.2
Sapajus apella	Captive	MF	4.1	*4*	202	342	1.7

Wild feeding Observations

								Body Mass source	**Notes**
Orangutan	Gunung Palung, Indonesia	MF	57.2	*5*	977	3082	3.2	*15*	Values used for intermediate (low fiber fermentation) availability. “The energy intake calculations did not differentiate between males and females...”
Orangutan	Tuanan, Indonesia	M (flanged)	86.3	*6*	1138	2802	2.5	*6*	
Orangutan	Tuanan, Indonesia	M (unflanged)	40.5	*6*	860	3043	3.5	*6*	
Orangutan	Tuanan, Indonesia	F	38.8	*6*	846	3016	3.6	*6*	
Orangutan	Sabangau, Indonesian	M (unflanged)	40.0	*7*	856	1624	1.9	*15*	Estimates assuming high fiber digestibility.
Orangutan	Sabangau, Indonesian	M (flanged)	78.5	*7*	1098	1762	1.6	*15*	Estimates assuming high fiber digestibility.
Orangutan	Sabangau, Indonesian	F	35.8	*7*	821	1665	2.0	*15*	Estimates assuming high fiber digestibility.
Orangutan	Gunung Palung, Indonesia	M	78.5	*8*	1098	1713	1.6	*15*	Page 108. Values by sex obtained via personal communication with author.
Orangutan	Gunung Palung, Indonesia	F	35.8	*8*	821	1912	2.3	*15*	Page 108. Values by sex obtained via personal communication with author.
Gorilla	Bwindi, Uganda	M (silverback)	200.0	*9*	2666	9209	3.5	*9*	Mountain gorilla.
Gorilla	Bwindi, Uganda	F	100.0	*9*	1699	8184	4.8	*9*	Mountain gorilla.
Gorilla	Bai Hokou, Central African Republic.	M	170.4	*10*	2402	5038	2.1	*15*	Western lowland gorilla.

Gorilla	Bai Hokou, Central African Republic.	F	71.5	*10*	1366	8914	6.5	*15*	Western lowland gorilla. All females were lactating during time of measurements.
Gorilla	Mondika, Congo	F	71.5	*11*	1366	2854	2.1	*15*	The primary estimate of energy intake in this study does not include contributions from neutral detergent fiber (NDF), which can be significant in gorillas. The value here adds energy from NDF, using the author's estimate of 1.5 kcal/g from hindgut processes and NDF intake. Final calculation is 2010 + 0.42*(2010) = 2854. See pp. 42,137 of source for details.
Chimpanzee	Kibale NP, Uganda	MF	40.0	*5*	1101	2022	1.8	*16*	Kibale. Averages taken across all time periods for both high fiber digestibility and zero fiber digestibility categories, then averaged for an intermediate value. "The energy intake calculations did not differentiate between males and females..."
Chimpanzee	Tai Forest, Cote de Ivoire	F	46.3	*12*	1212	2707	2.2	*15*	Cote de Ivoire. Averaged across months from table S3.
Chimpanzee	Tai Forest, Cote de Ivoire	M	41.6	*12*	1130	2943	2.6	*15*	Cote de Ivoire. Averaged across months from table S3.
Chimpanzee	Kibale NP, Uganda	F	36.9	*13*	1045	2479	2.4	*16*	Kibale. Weighted mean of "metabolizable energy (kcal)" from table 4, weights corresponding to days dominated by different food types.
Chimpanzee	Fongoli, Senegal	M	46.3	*14*	1212	2343	1.9	*15*	Savannah habitat.

Source: 1. Leonard & Robertson 1997 (*26*); 2. Key & Ross 1999 (*139*); 3. Pontzer et al. 2014 (*27*); 4. Edwards et al. 2017 (*140*); 5. Conklin-Brittain et al. 2006 (*119*); 6. Vogel et al. 2017 (*120*); 7. Harrison et al. 2010 (*121*); 8. (*122*) DiGiorgio 2019; 9. Rothman et al 2008 (*123*); 10. Masi et al. 2015 (*124*); 11. Lodwick 2014 (*125*); 12. Vale et al. 2021 (*126*); 13. Uwimbabazi et al. 2019 (*127*); 14. Lindshield 2014 (*128*); 15. Smith & Jungers 1997(*113*), 16. Carter et al. 2008 (*112*)
***BMR sources:** DLW-Based Regressions & Feeding Observations: BMR for Orangutans and Chimpanzees: Pontzer et al. 2016 (*1*). Gorillas calculated using the chimpanzee BMR regression × 0.85, following the difference in the chimpanzee and gorilla TEE regressions. Activity Budget and DLW Measurements: BMR calculated following (*26*)regression for primates as RMR = 69.1 Body Mass$^{0.761}$, where RMR has units kcal/d and body mass has units kg.

Table S2: Estimated per-capita production, subsistence energy expenditure, subsistence time cost, and return rate of adults in foraging and horticulturalist societies. Averages for hunter-gatherers and horticulturalists are calculated by first averaging across cases with multiple studies of the same population, and then over the sample of populations (such that each population is equally weighted). Supplementary Document 1 contains detailed information about the origins of each estimate.

Population	Subsistence mode	Country	Sex	E_a (kcal/day)	E_f (kcal/day)	T_f (hrs/day)	F	R_g (kcal/hr)	R_n (kcal/hr)	processing included	eating included	manufacture included	firewood collection included	water collection included	Source
Achuara	forager-horticulturalist	Peru-Ecuador	M			3.5				0	0	0	0	0	(*141*)
Achuara	forager-horticulturalist	Peru-Ecuador	F			4.2				0	0	0	0	0	(*141*)
Bororo	forager-horticulturalist	Brazil	Both	2560.2		2.9		874.8		1	0	0	0	0	(*142*)
Gadio Enga	forager-horticulturalist	Papua New Guinea	Both	4262.6						N/A	N/A	N/A	N/A	N/A	(*143*)
Kanela	forager-horticulturalist	Brazil	Both	12887		3.7		3438.0		1	0	0	0	0	(*142*)
Kaul	forager-horticulturalist	New Guinea	M		477.7	2.8				1	0	0	0	0	(*144*)
Kaul	forager-horticulturalist	New Guinea	F		304.9	3.6				1	0	0	0	0	(*144*)
Kaul	forager-horticulturalist	New Guinea	Both		391.3	3.2	9.0			1	0	0	0	0	(*144*)
Lufa	forager-horticulturalist	New Guinea	M		696.9	4.5				1	0	0	0	0	(*144*)
Lufa	forager-horticulturalist	New Guinea	F		582.5	4.8				1	0	0	0	0	(*144*)
Lufa	forager-horticulturalist	New Guinea	Both		639.7	4.7	5.0			1	0	0	0	0	(*144*)
Machiguenga	forager-horticulturalist	Peru (lowland)	M		1003.0	4.6				1	0	0	0	0	(*131*)
Machiguenga	forager-horticulturalist	Peru (lowland)	F		348.2	4.1				1	0	0	0	0	(*131*)
Machiguenga	forager-horticulturalist	Peru (lowland)	Both					2125.5		1	0	0	0	0	(*51*)
Machiguenga2	forager-horticulturalist	Peru (lowland)	M			2.0				1	0	0	0	0	(*145*)
Machiguenga2	forager-horticulturalist	Peru (lowland)	F			1.8				1	0	0	0	0	(*145*)
Maku	forager-horticulturalist	Brazil (lowland)	M	2424		8.0		303.1		1	1	0	0	0	(*146*)
Maku	forager-horticulturalist	Brazil (lowland)	F	15360		7.5		2048.0		1	1	0	0	0	(*146*)
Maku	forager-horticulturalist	Brazil (lowland)	Both	8892		7.8		1147.4		1	1	0	0	0	(*146*)
Mamainde	forager-horticulturalist	Brazil	M			2.3				1	0	0	0	0	(*147*)
Mamainde	forager-horticulturalist	Brazil	F			1.9				1	0	0	0	0	(*147*)
Mekranoti	forager-horticulturalist	Brazil	Both	21960.4		3.2		6834.1		1	0	0	0	0	(*142*)
Mvae	forager-horticulturalist	Cameroon	M			4.4				1	0	0	0	0	(*148*)
Mvae	forager-horticulturalist	Cameroon	F			6.5				1	0	0	0	0	(*148*)
Nunoa	forager-horticulturalist	Peru (highland)	Both	1943	251.2	4.4	7.7	439.4	382.6	1	0	0	0	0	(*149*)
Piro	forager-horticulturalist	Peru (lowland)	M			1.9				1	0	0	0	0	(*145*)

Piro	forager-horticulturalist	Peru lowland)	F			1.6				1	0	0	0	0	(*145*)
Shipibo	forager-horticulturalist	Peru (lowland)	M	4269		1.6		2663.3		1	0	0	0	0	(*150*)
Shipibo	forager-horticulturalist	Peru (lowland)	F	2469		2.9		845.5		1	0	0	0	0	(*150*)
Shipibo	forager-horticulturalist	Peru (lowland)	Both	3387		2.3		1497.4		1	0	0	0	0	(*150*)
Tatuyo	forager-horticulturalist	Colombia	M		1363.6	10.5				1	0	0	0	0	(*151*)
Tatuyo	forager-horticulturalist	Colombia	F		529.8	6.5				1	0	0	0	0	(*151*)
Tatuyo	forager-horticulturalist	Colombia	Both	5884	946.7	8.5	6.2	691.7	580.4	1	0	0	0	0	(*151*)
Tsembega	forager-horticulturalist	New Guinea	Both	3160						N/A	N/A	N/A	N/A	N/A	(*152*)
Wayana	forager-horticulturalist	Brazil	M			3.7				1	0	0	0	0	(*153*)
Wayana	forager-horticulturalist	Brazil	F			3.3				1	0	0	0	0	(*153*)
Xavante	forager-horticulturalist	Brazil	Both	15279		3.9		3869.6		1	0	0	0	0	(*142*)
Yanomamo	forager-horticulturalist	Venezuela	M			3.4				1	0	0	0	0	(*154*, *155*)
Yanomamo	forager-horticulturalist	Venezuela	F			3.8				1	0	0	0	0	(*154*, *155*)
Yanomamo	forager-horticulturalist	Venezuela	Both	2502		3.6		698.2		1	0	0	0	0	(*154–156*)
Yanomamo2	forager-horticulturalist	Venezuela	M			4.4				1	0	0	0	0	(*53*), field notes cited in (*156*)
Yanomamo2	forager-horticulturalist	Venezuela	F			4.1				1	0	0	0	0	(*53*), field notes cited in (*156*)
Yassa	forager-horticulturalist	Cameroon	M			4.6				1	0	0	0	0	(*148*)
Yassa	forager-horticulturalist	Cameroon	F			5.8				1	0	0	0	0	(*148*)
Ye'kwana	forager-horticulturalist	Venezuela	M			3.9				1	0	0	0	0	(*53*), field notes cited in (*156*)
Ye'kwana	forager-horticulturalist	Venezuela	F			4.8				1	0	0	0	0	(*53*), field notes cited in (*156*)
Yukpa	forager-horticulturalist	Venezuela	Both		413.9	4.7				1	0	0	0	0	(*157*)

Forager-horticulturalist average			**M**		**885**	**4.1**		
			F		**441**	**4.1**		
			Both	**7520**	**529**	**4.4**	**7.0**	**2161.6**

Ache	hunter-gatherer	Paraguay	Both					870.1		1	0	0	0	0	(*158*)
Ache	hunter-gatherer	Paraguay	M			7.5		1253.0		1	0	1	0	0	(*50*, *159*)
Ache	hunter-gatherer	Paraguay	F			6.5		1087.0		1	0	1	0	0	(*50*, *159*)
Ache	hunter-gatherer	Paraguay	M	5590						N/A	N/A	N/A	N/A	N/A	(*2*)
Ache	hunter-gatherer	Paraguay	F	1055						N/A	N/A	N/A	N/A	N/A	(*2*)
Anbarra	hunter-gatherer	Australia	M	2742						N/A	N/A	N/A	N/A	N/A	(*2*)
Anbarra	hunter-gatherer	Australia	F	1174						N/A	N/A	N/A	N/A	N/A	(*2*)
Arnhem	hunter-gatherer	Australia	M	4578						N/A	N/A	N/A	N/A	N/A	(*2*)
Arnhem	hunter-gatherer	Australia	F	2012						N/A	N/A	N/A	N/A	N/A	(*2*)
Mbuti	hunter-gatherer	DRC	M					724.9		?	?	?	?	?	(*160*)
Batek	hunter-gatherer	Malaysia	M	2817		4.1		685.4		0	0	0	0	0	(*161*, *162*)
Batek	hunter-gatherer	Malaysia	F	1839		2.9		632.0		0	0	0	0	0	(*161*, *162*)
Efe	hunter-gatherer	DRC	M			2.7		432.0		1	0	0	0	0	(*163*)
Efe	hunter-gatherer	DRC	F			4.2				1	0	0	0	0	(*163*)
Etolo	hunter-gatherer	New Guinea	M					331.4		0	0	0	0	0	(*164*)
G/wi	hunter-gatherer	Botswana	M	2412		6.3		383.2		0	0	0	0	0	(*2*, *165*, *166*)
G/wi	hunter-gatherer	Botswana	F	3200		2.9		1091.7		0	0	0	0	0	(*2*, *165*, *166*)
Gunwinngu	hunter-gatherer	Australia	M			2.9		1565.3		?	0	1	0	0	(*167*)
Gunwinngu	hunter-gatherer	Australia	F			2.3		188.37		?	0	1	0	0	(*167*)
Hadza	hunter-gatherer	Tanzania	M	8089		4.7		1709.1		1	0	0	0	0	(*168*) (time); (*2*) (production)
Hadza	hunter-gatherer	Tanzania	F	4397		5.1		861.2		1	0	0	0	0	(*168*) (time); (*2*) (production)
Hadza2	hunter-gatherer	Tanzania	M	2792		6.2		451.5		1	0	0	0	0	(*21*)
Hadza2	hunter-gatherer	Tanzania	F	3076		5.4		565.0		1	0	0	0	0	(*21*)
Hiwi	hunter-gatherer	Venezuela	M	3751		1.6		2420.0		1	0	0	0	0	(*49*)
Hiwi	hunter-gatherer	Venezuela	F	2156		4.2		517.4		1	0	0	0	0	(*49*)

Hiwi2	hunter-gatherer	Venezuela	M	3143		2.1		1496.8		1	0	0	0	0	(*169*)
Hiwi2	hunter-gatherer	Venezuela	F	1326		4.1		325.2		1	0	0	0	0	(*169*)
Inuit[a]	hunter-gatherer	Canada	M	6493						N/A	N/A	N/A	N/A	N/A	(*170*)
Inujjuamiut[a]	hunter-gatherer	Canada	M				28.3	2520.0		0	0	0	0		(*8*)
!Kung	hunter-gatherer	Botswana	F	3660		5.0		731.9		1	1	0	1	1	(*158*, *171*)
!Kung	hunter-gatherer	Botswana	M	3203		5.3		604.3		1	1	0	1	1	(*158*, *171*)
Nukak	hunter-gatherer	Colombia	M	4556						0	0	0	0	0	(*2*); original calculations based on (*172*)
Nukak	hunter-gatherer	Colombia	F	2988						0	0	0	0	0	(*2*); original calculations based on (*172*)
Nukak	hunter-gatherer	Colombia	Both	3772		6.1		618.4		0	0	0	0	0	(*2*); original calculations based on (*172*)
Onge	hunter-gatherer	Andaman Islands	M	4000						N/A	N/A	N/A	N/A	N/A	(*2*)
Onge	hunter-gatherer	Andaman Islands	F	1021						N/A	N/A	N/A	N/A	N/A	(*2*)

Hunter-gatherer average								
			M	**3320**		**4.9**		**914.4**
			F	**2137**		**4.3**		**664.1**
			Both	**3050**		**4.8**		**717.2**

[a]These societies were excluded from overall averages because they derived solely from hunting data in which modern technologies (primarily snowmobiles and guns) played a ubiquitous role.

Table S3: Within-population comparison of return rates (kcal/hr) for foraging (hunting/fishing) and horticulture. See individual references for details on calculations.

Population	Subsistence mode	Sex	Return rate (hunting)	Return rate (fishing)	Return rate (horticulture)	Source
Shipibo	forager-horticulturalist	M	975	914		(*150*)
Shipibo	forager-horticulturalist	F				(*150*)
Shipibo	forager-horticulturalist	Both			7711	(*150*)
Siona-Secoya	forager-horticulturalist	Both	3420	720	14515	(*173*) - see table 5 in (*156*)
Achuara	forager-horticulturalist	Both	825	540	5100	(*141*) - see table 5 in (*156*)
Yanomami	forager-horticulturalist	Both	504	115	3765	(*155*) - see table 5 in (*156*)
Machiguenga	forager-horticulturalist	Both	51	620	3600	(*131*) - see table 5 in (*156*)
Machiguenga	forager-horticulturalist	Both	116	215	3842	(*51*)
Average			**982**	**521**	**6422**	

Table S4: Mean fraction of time spent out of camp by Hadza females (data from focal follows). "Other" activities are generally low- to moderate-level physical activities, to which we ascribed the cost of non-baobab food processing (less intense than baobab pounding).

Activity	**Mean fraction of time out of camp**
Walking	0.306
Other	0.206
Digging	0.386
Running	0.000
Chopping	0.000
Resting	0.101

Table S5: Energy and time allocation estimates in great apes.

Species	Subspecies	Sex	Site/population	TEE	% time feeding	% time moving	Minutes feeding	Minutes moving	source	Notes
orangutan	*Pongo abelii*	female	Suaq Balimbing	1333			385.3	120	(*174*)	Values are weighted by number of observations.
orangutan	*Pongo abelii*	male	Suaq Balimbing	1748			377.5	102	(*174*)	Values are weighted by number of observations.
orangutan	*P.p. wurmbii*	female	Tanjing Putting	1333	64.4	17.6	463.6	126.5	(*175*)	
orangutan	*P.p. wurmbii*	male	Tanjing Putting	1748	61.8	16.9	444.8	121.8	(*175*)	
orangutan	*Pongo abelii*	female	Suaq Balimbing	1333	55.3	18.25	398.16	131.4	(*176*)	p. 126
orangutan	*Pongo abelii*	male	Suaq Balimbing	1748	50.8	16.4	365.76	118.08	(*176*)	p. 126
orangutan	*Pongo abelii*	female	Ketambe	1333	57.35	11.95	412.92	86.04	(*176*)	p. 126
orangutan	*Pongo abelii*	male	Ketambe	1748	50.45	11.1	363.24	79.92	(*176*)	p. 126
orangutan	*P.p. wurmbii*	female	Sabangau	1333	61.75	15.85	444.6	114.12	(*176*)	p. 126
orangutan	*P.p. wurmbii*	male	Sabangau	1748	60.75	15.85	437.4	114.12	(*176*)	p. 126
orangutan	*P.p. wurmbii*	female	Tuanan	1333	53.35	16.15	384.12	116.28	(*176*)	p. 126
orangutan	*P.p. wurmbii*	male	Tuanan	1748	47.85	17.45	344.52	125.64	(*176*)	p. 126
orangutan	*P.p. wurmbii*	female	Gunung Palung	1333	38.25	10.25	275.4	73.8	(*176*)	p. 126
orangutan	*P.p. wurmbii*	male	Gunung Palung	1748	33.95	9.45	244.44	68.04	(*176*)	p. 126
orangutan	*P.p. morio*	female	Mentoko	1333	47.2	11.5	339.84	82.8	(*177*)	
orangutan	*P.p. morio*	male	Mentoko	1748	45.2	9.6	325.44	69.12	(*177*)	
orangutan	*P.p. morio*	female	Ulu Segama	1333	31.9	17.6	229.68	126.72	(*178*)	Values from Fig. 15a,b.
orangutan	*P.p. morio*	male	Ulu Segama	1748	32.7	15.1	235.44	108.72	(*178*)	Values from Fig. 15a,b.
orangutan	*P.p. morio*	female	Kinabatangan	1333	36.4	12.3	262.08	88.56	(*176*)	p. 126
orangutan	*P.p. morio*	male	Kinabatangan	1748	33	9.25	237.6	66.6	(*176*)	p. 126
chimpanzee	*Pan troglodytes schweinfurthii*	female	Mahale	1517	46.9	12.8	337.68	92.16	(*179*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Mahale	1704	46.9	12.8	337.68	92.16	(*179*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Gombe	1517	49	14.8	352.8	106.56	(*179*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Gombe	1704	49	14.8	352.8	106.56	(*179*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Mahale	1517	29.5	28.3	212.4	204	(*180*)	
chimpanzee	*Pan troglodytes verus*	female	Taï	1517	43	12	309.6	86.4	(*181*)	Aggregated sexes in publication.

chimpanzee	*Pan troglodytes verus*	male	Taï	1704	43	12	309.6	86.4	(*181*)	Aggregated sexes in publication.
	Pan troglodytes verus									
chimpanzee	*Pan troglodytes verus*	female	Taï	1517	50	19	360	136.8	(*182*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Taï	1704	50	19	360	136.8	(*182*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Kibale Ngogo	1517	51.5	9.5	370.8	68.4	(*183*)	From Figure 3 using ImageJ; cycling females only
chimpanzee	*Pan troglodytes schweinfurthii*	male	Kibale Ngogo	1704	43.4	16	311.8	115.2	(*183*)	From Figure 3 using ImageJ
chimpanzee	*Pan troglodytes schweinfurthii*	female	Kibale Kanywara	1517	47.8	12	344.2	86.4	(*183*)	From Figure 3 using ImageJ; cycling females only
chimpanzee	*Pan troglodytes schweinfurthii*	male	Kibale Kanywara	1704	44.6	11.2	321.1	80.6	(*183*)	From Figure 3 using ImageJ
chimpanzee	*Pan troglodytes schweinfurthii*	female	Kibale Kanywara	1517	33.7		242.6		(*184*)	Aggregated sexes in publication. No estimates of time spent moving.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Kibale Kanywara	1704	33.7		242.6		(*184*)	Aggregated sexes in publication. No estimates of time spent moving.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Budongo	1517	48.8		351.36		(*185*)	Aggregated sexes in publication. No estimates of time spent moving.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Budongo	1704	48.8		351.36		(*185*)	Aggregated sexes in publication. No estimates of time spent moving.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Budongo	1517	44.4	5.57	319.8	40.1	(*186*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Budongo	1704	44.4	5.57	319.8	40.1	(*186*)	Aggregated sexes in publication.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Conkouati	1517	53.45	14.76	384.84	106.272	(*187*)	
chimpanzee	*Pan troglodytes schweinfurthii*	male	Conkouati	1704	43.32	15.52	311.904	111.744	(*187*)	
chimpanzee	*Pan troglodytes schweinfurthii*	female	Budongo	1517	54.73	6.33	394.056	45.576	(*188*)	Table IV- cited in Farmer et al 2006
chimpanzee	*Pan troglodytes schweinfurthii*	male	Budongo	1704	50.6	8.83	364.32	63.576	(*188*)	Table IV- cited in Farmer et al 2006
chimpanzee	*Pan troglodytes schweinfurthii*	female	Kibale Ngogo	1517	52.5	10	378	72	(*189*)	Table IV- cited in Farmer et al 2006. Chimpanzees in this study were unhabituated and thus estimates could be biased.
chimpanzee	*Pan troglodytes schweinfurthii*	male	Kibale Ngogo	1704	62.1	12.1	447.12	87.12	(*189*)	Table IV- cited in Farmer et al 2006. Chimpanzees in this study were unhabituated and thus estimates could be biased.
chimpanzee	*Pan troglodytes schweinfurthii*	female	Gombe	1517	51.8	14.6	372.96	105.12	(*190*)	Table IV- cited in Farmer et al 2006
chimpanzee	*Pan troglodytes schweinfurthii*	male	Gombe	1704	40.1	13	288.72	93.6	(*190*)	Table IV- cited in Farmer et al 2006
gorilla	*Gorilla gorilla gorilla*	female	Bai Hokou	1843	51	17	367.2	122.4	(*191*)	
gorilla	*Gorilla gorilla gorilla*	male	Bai Hokou	3494	58	9	417.6	64.8	(*191*)	
gorilla	*Gorilla gorilla gorilla*	female	Mondika	1843	42.3	12.32	304.56	88.704	(*192*)	Not clear which citation this comes from, probably personal communication with Doran. Aggregated sexes in publication.

gorilla	*Gorilla gorilla gorilla*	male	Mondika	3494	42.3	12.32	304.56	88.704	(*192*)	Not clear which citation this comes from, probably personal communication with Doran. Aggregated sexes in publication.
gorilla	*Gorilla gorilla gorilla*	female	Bai Hokou	1843	72.85	11.25	524.52	81	(*193*)	Females are "Adult female" category, and male is average of silverback and subadult male, using M/F low and high season estimates.
gorilla	*Gorilla gorilla gorilla*	male	Bai Hokou	3494	62.55	11.55	450.36	83.16	(*193*)	Females are "Adult female" category, and male is average of silverback and subadult male, using M/F low and high season estimates.
gorilla	*Gorilla gorilla gorilla*	female	Maya Nord	1843	72	16.5	518.4	118.8	(*194*)	Aggregated sexes in publication.
gorilla	*Gorilla gorilla gorilla*	male	Maya Nord	3494	72	16.5	518.4	118.8	(*194*)	Aggregated sexes in publication.
gorilla	*Gorilla beringei beringei*	female	Karisoke	1843	55.4	6.5	398.88	46.8	(*195*)	Aggregated sexes in publication
gorilla	*Gorilla beringei beringei*	male	Karisoke	3494	55.4	6.5	398.88	46.8	(*195*)	Aggregated sexes in publication
gorilla	*Gorilla gorilla gorilla*	female	Mbeli Bai	1843	67		482.4		(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla gorilla*	male	Mbeli Bai	3494	67		482.4		(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla gorilla*	female	Ndoki	1843	60.2		433.44		(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla gorilla*	male	Ndoki	3494	60.2		433.44		(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla graueri*	female	Highland	1843	45.5	9.4	327.6	67.68	(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla graueri*	male	Highland	3494	45.5	9.4	327.6	67.68	(*192*)	Aggregated sexes.
gorilla	*Gorilla beringei beringei*	female	Kabara	1843	45.8		329.76		(*192*)	Aggregated sexes.
gorilla	*Gorilla beringei beringei*	male	Kabara	3494	45.8		329.76		(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla gorilla*	female	Okorobiko	1843	48	10.3	345.6	74.16	(*192*)	Aggregated sexes.
gorilla	*Gorilla gorilla gorilla*	male	Okorobiko	3494	48	10.3	345.6	74.16	(*192*)	Aggregated sexes.
gorilla	*Gorilla beringei beringei*	female	Ruhija	1843	55		396		(*192*)	Aggregated sexes.
gorilla	*Gorilla beringei beringei*	male	Ruhija	3494	55		396		(*192*)	Aggregated sexes.
gorilla	*Gorilla beringei beringei*	female	Bwindi	1843	54.6		393.12		(*123*)	Aggregated sexes.
gorilla	*Gorilla beringei beringei*	male	Bwindi	3494	54.6		393.12		(*123*)	Aggregated sexes.

Table S6: Database of instantaneous measures of energetic expenditure for common activities in small-scale subsistence societies. Values are compiled from the literature or come from the current study.

Location	Sex	Position	Activity	Category	N	kJ/min	kcal/min	source	location	Mass (kg)	J/min/kg	kcal/min/kg	notes
New Guinea	M	sitting	weave 'bombom' mat	Domestic Labor	1	5.9	1.4	(*144*)	table 11	56.3	104.796	0.02486679	
New Guinea	M	sitting	tie morotta	Domestic Labor	1	6.3	1.5	(*144*)	table 11	56.3	111.901	0.02664298	
New Guinea	M	sitting	separate copra and shell	Domestic Labor	1	7.5	1.8	(*144*)	table 11	56.3	133.215	0.03197158	
New Guinea	M	sitting	sew morotta	Domestic Labor	2	7.9	1.9	(*144*)	table 11	56.3	140.32	0.03374778	
New Guinea	M	sitting	carve plate, drum, or comb	Manufacture	3	8.4	2	(*144*)	table 11	56.3	149.201	0.03552398	
New Guinea	M	sitting	fish from canoe	Foraging	2	8.8	2.1	(*144*)	table 11	56.3	156.306	0.03730018	
New Guinea	M	sitting	weave bamboo wall	Domestic Labor	2	11.7	2.8	(*144*)	table 11	56.3	207.815	0.04973357	
New Guinea	M	sitting	cut copra	Domestic Labor	1	13	3.1	(*144*)	table 11	56.3	230.906	0.05506217	
New Guinea	M	sitting	paddle canoe	Foraging	2	13.8	3.3	(*144*)	table 11	56.3	245.115	0.05861456	
New Guinea	M	standing	clean gun	Manufacture	1	6.7	1.6	(*144*)	table 11	56.3	119.005	0.02841918	
New Guinea	M	standing	mend lamp	Domestic Labor	1	7.9	1.9	(*144*)	table 11	56.3	140.32	0.03374778	
New Guinea	M	standing	fish with line	Foraging	1	8.4	2	(*144*)	table 11	56.3	149.201	0.03552398	
New Guinea	M	standing	tie fence	Manufacture	1	8.4	2	(*144*)	table 11	56.3	149.201	0.03552398	
New Guinea	M	standing	plant tobacco	Farm Labor	1	9.6	2.3	(*144*)	table 11	56.3	170.515	0.04085258	
New Guinea	M	standing	chop firewood	Farm Labor	1	10.5	2.5	(*144*)	table 11	56.3	186.501	0.04440497	
New Guinea	M	standing	fish with spear	Foraging	1	10.5	2.5	(*144*)	table 11	56.3	186.501	0.04440497	
New Guinea	M	standing	prune cocoa	Farm Labor	1	10.9	2.6	(*144*)	table 11	56.3	193.606	0.04618117	
New Guinea	M	standing	cut tobacco	Farm Labor	1	11.3	2.7	(*144*)	table 11	56.3	200.71	0.04795737	
New Guinea	M	standing	clear light bush	Farm Labor	4	11.7	2.8	(*144*)	table 11	56.3	207.815	0.04973357	
New Guinea	M	standing	disbud tobacco	Farm Labor	1	12.1	2.9	(*144*)	table 11	56.3	214.92	0.05150977	
New Guinea	M	standing	weed with shovel or hoe	Farm Labor	2	13	3.1	(*144*)	table 11	56.3	230.906	0.05506217	
New Guinea	M	standing	at 'sing-sing'	Social	1	13	3.1	(*144*)	table 11	56.3	230.906	0.05506217	
New Guinea	M	standing	make fence	Farm Labor	1	14.6	3.5	(*144*)	table 11	56.3	259.325	0.06216696	
New Guinea	M	standing	collect Daka (piper)	Farm Labor	1	15.1	3.6	(*144*)	table 11	56.3	268.206	0.06394316	

New Guinea	M	standing	cycling	Other	1	18.8	4.5	(*144*)	table 11	56.3	333.925	0.07992895	
New Guinea	M	standing	cut saplings	Farm Labor	3	16.7	4	(*144*)	table 11	56.3	296.625	0.07104796	
New Guinea	F	sit.squat	sewing	Domestic Labor	2	5	1.2	(*144*)	table 12	48.1	103.95	0.02494802	
New Guinea	F	sit.squat	prepare tobacco	Farm Labor	3	5.4	1.3	(*144*)	table 12	48.1	112.266	0.02702703	
New Guinea	F	sit.squat	remove beans	Farm Labor	2	5.4	1.3	(*144*)	table 12	48.1	112.266	0.02702703	
New Guinea	F	sit.squat	split cocoa	Farm Labor	1	7.1	1.7	(*144*)	table 12	48.1	147.609	0.03534304	
New Guinea	F	sit.squat	break galips	Farm Labor	4	6.7	1.6	(*144*)	table 12	48.1	139.293	0.03326403	
New Guinea	F	sit.squat	squeeze coconut	Farm Labor	2	8.8	2.1	(*144*)	table 12	48.1	182.952	0.04365904	
New Guinea	F	sit.squat	weaving bilum	Domestic Labor	6	5	1.2	(*144*)	table 12	48.1	103.95	0.02494802	
New Guinea	F	sit.squat	preparing rope	Manufacture	6	5.4	1.3	(*144*)	table 12	48.1	112.266	0.02702703	
New Guinea	F	sit.squat	peeling taro	Food Preparation	33	6.3	1.5	(*144*)	table 12	48.1	130.977	0.03118503	
New Guinea	F	standing	collect tulip leaves	Farm Labor	1	6.7	1.6	(*144*)	table 12	48.1	139.293	0.03326403	
New Guinea	F	standing	put on rope	Domestic Labor	1	8.4	2	(*144*)	table 12	48.1	174.636	0.04158004	
New Guinea	F	standing	cut tobacco	Farm Labor	3	8.8	2.1	(*144*)	table 12	48.1	182.952	0.04365904	
New Guinea	F	standing	sweeping	Domestic Labor	7	9.2	2.2	(*144*)	table 12	48.1	191.268	0.04573805	
New Guinea	F	standing	wash clothes	Domestic Labor	3	10	2.4	(*144*)	table 12	48.1	207.9	0.04989605	
New Guinea	F	standing	disbud tobacco	Farm Labor	2	10	2.4	(*144*)	table 12	48.1	207.9	0.04989605	
New Guinea	F	standing	collect cocoa	Farm Labor	1	10.5	2.5	(*144*)	table 12	48.1	218.295	0.05197505	
New Guinea	F	standing	cut weeds w sarif	Farm Labor	1	10.9	2.6	(*144*)	table 12	48.1	226.611	0.05405405	
New Guinea	F	standing	collect leaves along path	Farm Labor	1	10.9	2.6	(*144*)	table 12	48.1	226.611	0.05405405	
New Guinea	F	standing	dig holes for planting	Farm Labor	1	15.5	3.7	(*144*)	table 12	48.1	322.245	0.07692308	
New Guinea	F	standing	catch crabs	Foraging	1	16.3	3.9	(*144*)	table 12	48.1	338.877	0.08108108	
New Guinea	M	sitting	make arrows	Manufacture	5	7.5	1.8	(*144*)	table 13	57.5	130.435	0.03130435	
New Guinea	M	sitting	play 'matches'/cards	Domestic Labor	3	6.3	1.5	(*144*)	table 13	57.5	109.565	0.02608696	
New Guinea	M	sitting	weave pitpit wall	Domestic Labor	2	7.9	1.9	(*144*)	table 13	57.5	137.391	0.03304348	
New Guinea	M	sitting	unload mumu stones	Domestic Labor	1	7.5	1.8	(*144*)	table 13	57.5	130.435	0.03130435	
New Guinea	M	sitting	sharpen axe	Manufacture	1	7.5	1.8	(*144*)	table 13	57.5	130.435	0.03130435	
New Guinea	M	sitting	prepare food(peel tubers)	Food Preparation	1	5.9	1.4	(*144*)	table 13	57.5	102.609	0.02434783	

New Guinea	M	sitting	string loom	Domestic Labor	1	8.4	2	(*144*)	table 13	57.5	146.087	0.03478261	
New Guinea	M	standing	pick coffee	Farm Labor	10	10.9	2.6	(*144*)	table 13	57.5	189.565	0.04521739	
New Guinea	M	standing	chop firewood	Farm Labor	7	21.8	5.2	(*144*)	table 13	57.5	379.13	0.09043478	
New Guinea	M	standing	collect bush rope	Manufacture	1	17.6	4.2	(*144*)	table 13	57.5	306.087	0.07304348	
New Guinea	M	standing	play football in village	Social	1	13.8	3.3	(*144*)	table 13	57.5	240	0.0573913	
New Guinea	F	sit.squat	sew clothes	Domestic Labor	1	5.4	1.3	(*144*)	table 13	50.5	106.931	0.02574257	
New Guinea	F	sit.squat	skin coffee	Food Preparation	3	5.9	1.4	(*144*)	table 13	50.5	116.832	0.02772277	
New Guinea	F	sit.squat	sew pandanus mat	Domestic Labor	2	5.9	1.4	(*144*)	table 13	50.5	116.832	0.02772277	
New Guinea	F	sit.squat	load mumu with food	Food Preparation	1	10	2.4	(*144*)	table 13	50.5	198.02	0.04752475	
New Guinea	F	sit.squat	preparing rope	Manufacture	9	5.4	1.3	(*144*)	table 13	50.5	106.931	0.02574257	
New Guinea	F	sit.squat	weaving bilum	Domestic Labor	1	5.9	1.4	(*144*)	table 13	50.5	116.832	0.02772277	
New Guinea	F	sit.squat	peeling sweet potato	Food Preparation	7	5.4	1.3	(*144*)	table 13	50.5	106.931	0.02574257	
New Guinea	F	sit.squat	roasting corn	Food Preparation	1	5	1.2	(*144*)	table 13	50.5	99.0099	0.02376238	
New Guinea	M	walking	walking	Walking	37	20.3	4.9	(*144*)	table 14	50.5	401.98	0.0970297	
New Guinea	M	walking	walking slowly	Walking	17	15.9	3.8	(*144*)	table 14	50.5	314.851	0.07524752	
New Guinea	M	walking	walking around'	Walking	15	11.5	2.8	(*144*)	table 14	50.5	227.723	0.05544554	
New Guinea	M	walking	walking with load	Walking	na	na	na	(*144*)	table 14	50.5	na	na	
New Guinea	F	walking	walking	Walking	26	16.7	4	(*144*)	table 14	55	303.636	0.07272727	
New Guinea	F	walking	walking slowly	Walking	10	12.5	3	(*144*)	table 14	55	227.273	0.05454545	
New Guinea	F	walking	walking around'	Walking	16	8.6	2.1	(*144*)	table 14	55	156.364	0.03818182	
New Guinea	F	walking	walking with load	Walking	19	16.2	3.9	(*144*)	table 14	55	294.545	0.07090909	
New Guinea	M	walking	walking	Walking	7	19.9	4.7	(*144*)	table15	65	306.154	0.07230769	
New Guinea	M	walking	walking slowly	Walking	1	14.7	3.5	(*144*)	table15	65	226.154	0.05384615	
New Guinea	M	walking	walking around'	Walking	na	na	na	(*144*)	table15	65	na	na	
New Guinea	M	walking	walking with load	Walking	na	na	na	(*144*)	table15	65	na	na	
New Guinea	M	walking	walking uphill slowly	Walking	2	23.6	5.7	(*144*)	table15	65	363.077	0.08769231	
New Guinea	M	walking	walking uphill average	Walking	19	28.4	6.8	(*144*)	table15	65	436.923	0.10461538	
New Guinea	M	walking	walking uphill fast	Walking	5	37.4	8.9	(*144*)	table15	65	575.385	0.13692308	

New Guinea	M	walking	walking downhill slowly	Walking	3	14.3	3.4	(*144*)	table15	65	220	0.05230769	
New Guinea	M	walking	walking downhill average	Walking	18	15.6	3.7	(*144*)	table15	65	240	0.05692308	
New Guinea	M	walking	walking downhill fast	Walking	3	18	4.3	(*144*)	table15	65	276.923	0.06615385	
New Guinea	M	walking	walking with load uphill	Walking	3	29.1	8	(*144*)	table15	65	447.692	0.12307692	
New Guinea	M	walking	walking with load downhill	Walking	na	na	na	(*144*)	table15	65	na	na	
New Guinea	F	walking	walking	Walking	3	15	3.6	(*144*)	table15	55	272.727	0.06545455	
New Guinea	F	walking	walking slowly	Walking	na	na	na	(*144*)	table15	55	na	na	
New Guinea	F	walking	walking around'	Walking	2	10.9	2.6	(*144*)	table15	55	198.182	0.04727273	
New Guinea	F	walking	walking with load	Walking	1	31.9	7.6	(*144*)	table15	55	580	0.13818182	
New Guinea	F	walking	walking uphill slowly	Walking	1	16.4	3.9	(*144*)	table15	55	298.182	0.07090909	
New Guinea	F	walking	walking uphill average	Walking	17	23.2	5.6	(*144*)	table15	55	421.818	0.10181818	
New Guinea	F	walking	walking uphill fast	Walking	2	27.1	6.5	(*144*)	table15	55	492.727	0.11818182	
New Guinea	F	walking	walking downhill slowly	Walking	4	9.6	2.3	(*144*)	table15	55	174.545	0.04181818	
New Guinea	F	walking	walking downhill average	Walking	13	12.3	2.9	(*144*)	table15	55	223.636	0.05272727	
New Guinea	F	walking	walking downhill fast	Walking	5	14.2	3.4	(*144*)	table15	55	258.182	0.06181818	
New Guinea	F	walking	walking with load uphill	Walking	10	25	6	(*144*)	table15	55	454.545	0.10909091	
New Guinea	F	walking	walking with load downhill	Walking	1	19.2	6.6	(*144*)	table15	55	349.091	0.12	
New Guinea	M	na	weeding	Farm Labor	4	13	3.1	(*144*)	table16	65	200	0.04769231	
New Guinea	M	na	clean garden	Farm Labor	2	15	3.6	(*144*)	table16	65	230.769	0.05538462	
New Guinea	M	na	plant taro	Farm Labor	na	na	na	(*144*)	table16	65	na	na	
New Guinea	M	na	dig taro	Farm Labor	na	na	na	(*144*)	table16	65	na	na	
New Guinea	M	na	cut grass	Farm Labor	17	27.5	6.6	(*144*)	table16	65	423.077	0.10153846	
New Guinea	M	na	collect coconuts	Farm Labor	2	21.7	5.2	(*144*)	table16	65	333.846	0.08	
New Guinea	M	na	husk coconuts	Farm Labor	4	29.4	7	(*144*)	table16	65	452.308	0.10769231	
New Guinea	M	na	bag coconuts	Farm Labor	3	18.8	4.5	(*144*)	table16	65	289.231	0.06923077	
New Guinea	M	na	bag and split coconuts	Farm Labor	6	20.3	4.8	(*144*)	table16	65	312.308	0.07384615	
New Guinea	M	na	hunt flying fox	Foraging	2	15.5	3.7	(*144*)	table16	65	238.462	0.05692308	
New Guinea	M	na	hunt pigs	Foraging	2	16.9	4	(*144*)	table16	65	260	0.06153846	

New Guinea	M	na	house building, cut bamboo	Domestic Labor	1	15	3.6	(*144*)	table16	65	230.769	0.05538462	
New Guinea	M	na	house building, cut limbom trunks	Domestic Labor	2	19.3	4.6	(*144*)	table16	65	296.923	0.07076923	
New Guinea	M	na	house building,collect bom bom	Domestic Labor	1	19.3	4.6	(*144*)	table16	65	296.923	0.07076923	
New Guinea	M	na	house building, dig post holes	Domestic Labor	1	29	6.9	(*144*)	table16	65	446.154	0.10615385	
New Guinea	M	na	house building, lay floor	Domestic Labor	1	19.3	4.6	(*144*)	table16	65	296.923	0.07076923	
New Guinea	M	na	house building, nailing	Domestic Labor	1	15.5	3.7	(*144*)	table16	65	238.462	0.05692308	
New Guinea	F	na	weeding	Farm Labor	12	11	2.6	(*144*)	table16	55	200	0.04727273	
New Guinea	F	na	clean garden	Farm Labor	4	16.7	4	(*144*)	table16	55	303.636	0.07272727	
New Guinea	F	na	plant taro	Farm Labor	6	14.9	3.5	(*144*)	table16	55	270.909	0.06363636	
New Guinea	F	na	dig taro	Farm Labor	10	12.5	3	(*144*)	table16	55	227.273	0.05454545	
New Guinea	F	na	cut grass	Farm Labor	5	20.6	4.9	(*144*)	table16	55	374.545	0.08909091	
New Guinea	M	na	clearing ground	Farm Labor	6	23.2	5.5	(*144*)	table17	65	356.923	0.08461538	
New Guinea	M	na	dig ground	Farm Labor	4	27.9	6.7	(*144*)	table17	65	429.231	0.10307692	
New Guinea	M	na	cut pitpit	Farm Labor	1	14.7	3.5	(*144*)	table17	65	226.154	0.05384615	
New Guinea	M	na	cut tree	Farm Labor	1	27.5	6.6	(*144*)	table17	65	423.077	0.10153846	
New Guinea	M	na	split wood for posts	Farm Labor	5	21.3	5	(*144*)	table17	65	327.692	0.07692308	
New Guinea	M	na	sharpen posts	Farm Labor	2	19.9	4.7	(*144*)	table17	65	306.154	0.07230769	
New Guinea	M	na	put in fence posts	Farm Labor	3	21.7	5.2	(*144*)	table17	65	333.846	0.08	
New Guinea	M	na	tie fence posts	Farm Labor	4	15.6	3.7	(*144*)	table17	65	240	0.05692308	
New Guinea	M	na	shovelling-road work	Farm Labor	1	23.6	5.7	(*144*)	table17	65	363.077	0.08769231	
New Guinea	M	na	dig barat	Farm Labor	1	30.7	7.3	(*144*)	table17	65	472.308	0.11230769	
New Guinea	M	na	tie sugar cane	Farm Labor	2	15.1	3.6	(*144*)	table17	65	232.308	0.05538462	
New Guinea	M	na	tie banana stem	Farm Labor	2	16.5	4	(*144*)	table17	65	253.846	0.06153846	
New Guinea	M	na	clean garden	Farm Labor	6	23.2	5.5	(*144*)	table17	65	356.923	0.08461538	
New Guinea	M	na	weeding	Farm Labor	5	15.1	3.6	(*144*)	table17	65	232.308	0.05538462	
New Guinea	M	na	hunting birds	Foraging	1	17.1	4.1	(*144*)	table17	65	263.077	0.06307692	
New Guinea	M	na	pull kunai grass	Farm Labor	1	12.8	3.1	(*144*)	table17	65	196.923	0.04769231	

New Guinea	M	na	roof house	Domestic Labor	1	14.7	3.5	(*144*)	table17	65	226.154	0.05384615	
New Guinea	F	na	clearing ground	Domestic Labor	6	15	3.6	(*144*)	table17	55	272.727	0.06545455	
New Guinea	F	na	dig ground	Farm Labor	9	19.2	4.6	(*144*)	table17	55	349.091	0.08363636	
New Guinea	F	na	weeding	Farm Labor	8	11.9	2.8	(*144*)	table17	55	216.364	0.05090909	
New Guinea	F	na	plant sweet potato	Farm Labor	3	19.2	5.4	(*144*)	table17	55	349.091	0.09818182	
New Guinea	F	na	collect sweet potato	Farm Labor	9	12.3	2.9	(*144*)	table17	55	223.636	0.05272727	
New Guinea	F	na	pick coffee	Farm Labor	10	14.2	3.4	(*144*)	table17	55	258.182	0.06181818	
Peru	M	walking	walking open paths	Walking	6	22.1	5.3	(*131*)	table2	53.4	413.858	0.09925094	
Peru	M	walking	walking level forest paths	Walking	6	25	6	(*131*)	table2	53.4	468.165	0.11235955	
Peru	M	walking	walking up forest paths	Walking	9	na	8.9	(*131*)	table2	53.4	#VALUE!	0.16666667	
Peru	M	walking	walking down forest paths	Walking	3	17.1	4.1	(*131*)	table2	53.4	320.225	0.07677903	
Peru	M	walking	clearing undergrowth	Farm Labor	5	30.5	7.3	(*131*)	table2	53.4	571.161	0.13670412	
Peru	M	walking	felling large trees	Farm Labor	8	31.7	7.6	(*131*)	table2	53.4	593.633	0.1423221	
Peru	M	na	planting maize	Farm Labor	2	17.9	4.3	(*131*)	table2	53.4	335.206	0.08052434	
Peru	M	na	planting manioc	Farm Labor	7	21.7	5.2	(*131*)	table2	53.4	406.367	0.09737828	
Peru	M	standing	weeding slope	Farm Labor	4	25.4	6.1	(*131*)	table2	53.4	475.655	0.11423221	
Peru	M	na	cutting grass	Farm Labor	1	29.2	7	(*131*)	table2	53.4	546.816	0.13108614	
Peru	M	na	harvesting maize	Farm Labor	5	22.1	5.3	(*131*)	table2	53.4	413.858	0.09925094	
Peru	M	na	harvesting manioc	Farm Labor	4	18.3	4.4	(*131*)	table2	53.4	342.697	0.082397	
Peru	M	na	removing palmheart	Farm Labor	1	25.9	6.2	(*131*)	table2	53.4	485.019	0.11610487	
Peru	M	standing	chopping firewood logs	Farm Labor	2	28	6.7	(*131*)	table2	53.4	524.345	0.12546816	
Peru	M	na	net bag manufacture	Manufacture	9	10.8	2.6	(*131*)	table2	53.4	202.247	0.04868914	
Peru	M	na	cane box manufacture	Farm Labor	2	9.1	2.2	(*131*)	table2	53.4	170.412	0.0411985	
Peru	M	na	bow and arrow manufacture	Manufacture	15	11.2	2.7	(*131*)	table2	53.4	209.738	0.0505618	
Peru	F	na	planting root crops	Farm Labor	2	12.1	2.9	(*131*)	table2	43.3	279.446	0.0669746	
Peru	F	na	harvesting root crops	Farm Labor	7	11.2	2.7	(*131*)	table2	43.3	258.661	0.06235566	
Peru	F	na	catching fish with hands	Farm Labor	4	12.9	3.1	(*131*)	table2	43.3	297.921	0.07159353	
Peru	F	na	weeding yard	Farm Labor	2	10	2.4	(*131*)	table2	43.3	230.947	0.05542725	

Peru	F	na	sweeping yard	Farm Labor	1	11.7	2.8	(*131*)	table2	43.3	270.208	0.06466513	
Peru	F	na	deseeding cotton	Farm Labor	2	5.8	1.4	(*131*)	table2	43.3	133.949	0.03233256	
Peru	F	na	beating cotton	Farm Labor	4	7.9	1.9	(*131*)	table2	43.3	182.448	0.04387991	
Peru	F	na	spinning cotton	Domestic Labor	6	4.5	1.1	(*131*)	table2	43.3	103.926	0.02540416	
Peru	F	na	setting loom	Domestic Labor	2	8.3	2	(*131*)	table2	43.3	191.686	0.04618938	
Peru	F	na	weaving	Domestic Labor	8	7.5	1.8	(*131*)	table2	43.3	173.21	0.04157044	
Peru	F	na	grinding maize	Food Preparation	6	11.7	2.8	(*131*)	table2	43.3	270.208	0.06466513	
Peru	F	na	peeling manioc	Food Preparation	3	8.7	2.1	(*131*)	table2	43.3	200.924	0.04849885	
Peru	F	na	splitting manioc	Food Preparation	2	8.3	2	(*131*)	table2	43.3	191.686	0.04618938	
Peru	F	na	straining manioc	Food Preparation	6	7.9	1.9	(*131*)	table2	43.3	182.448	0.04387991	
Peru	F	na	washing laundry	Domestic Labor	3	10.8	2.6	(*131*)	table2	43.3	249.423	0.06004619	
Colombia	F	sitting	sitting quietly	Resting	10	4.39	1.05	(*151*)	table3	49.6	88.5081	0.02116935	
Colombia	F	na	planting manioc	Farm Labor	6	13.3	3.18	(*151*)	table3	49.6	268.145	0.0641129	
Colombia	F	na	harvesting manioc	Farm Labor	8	10.38	2.48	(*151*)	table3	49.6	209.274	0.05	
Colombia	F	na	grating manioc	Food Preparation	8	14	3.35	(*151*)	table3	49.6	282.258	0.06754032	
Colombia	F	na	sieving manioc	Food Preparation	10	15.6	3.73	(*151*)	table3	49.6	314.516	0.07520161	
Colombia	F	walking	walking (3km.hr)	Walking	9	9.37	2.24	(*151*)	table3	49.6	188.911	0.04516129	
Colombia	F	walking	walking(4km.hr)	Walking	8	11.79	2.82	(*151*)	table3	49.6	237.702	0.05685484	
Colombia	F	walking	walking(5km.hr)	Walking	8	14.68	3.51	(*151*)	table3	49.6	295.968	0.07076613	
Colombia	F	carrying	carrying(15kg)	Walking	8	12.42	2.97	(*151*)	table3	49.6	250.403	0.05987903	
Colombia	F	carrying	carrying(20kg)	Walking	9	12.93	3.09	(*151*)	table3	49.6	260.685	0.06229839	
Colombia	F	carrying	carrying(25kg)	Walking	9	13.78	3.29	(*151*)	table3	49.6	277.823	0.06633065	
Colombia	F	carrying	carrying(30kg)	Walking	9	14.85	3.55	(*151*)	table3	49.6	299.395	0.07157258	
Canada	M	standing	driving dog team	Foraging	na	na	1.4	(*196*)	table2	65	90.1169	0.02153846	
Canada	M	standing	standing at floe edge	Resting	na	na	1.6	(*196*)	table2	65	102.991	0.02461538	
Canada	M	na	snowmobile passenger	Other	na	na	1.9	(*196*)	table2	65	122.302	0.02923077	
Canada	M	na	office clerk	Other	na	na	2.2	(*196*)	table2	65	141.612	0.03384615	
Canada	M	na	watching seal hole	Foraging	na	na	2.2	(*196*)	table2	65	141.612	0.03384615	

Canada	M	na	caterpillar driving	Other	na	na	2.3	(*196*)	table2	65	148.049	0.03538462	
Canada	M	na	snowmobile driving (heavy load)	Other	na	na	2.5	(*196*)	table2	65	160.923	0.03846154	
Canada	M	na	snowmobile driving (one passenger)	Other	na	na	2.7	(*196*)	table2	65	173.797	0.04153846	
Canada	M	na	snowmobile driving (repairs)	Other	na	na	2.9	(*196*)	table2	65	186.671	0.04461538	
Canada	M	na	light garage work	Other	na	na	2.6	(*196*)	table2	65	167.36	0.04	
Canada	M	na	electrician	Other	na	na	2.7	(*196*)	table2	65	173.797	0.04153846	
Canada	M	na	grocery clerk	Other	na	na	2.9	(*196*)	table2	65	186.671	0.04461538	
Canada	M	na	making knives	Other	na	na	3	(*196*)	table2	65	193.108	0.04615385	
Canada	M	na	boat repairs	Other	na	na	3	(*196*)	table2	65	193.108	0.04615385	
Canada	M	na	water distribution	Other	na	na	3.2	(*196*)	table2	65	205.982	0.04923077	
Canada	M	na	painting indoors	Other	na	na	3.2	(*196*)	table2	65	205.982	0.04923077	
Canada	M	na	soapstone carving	Other	na	na	3.4	(*196*)	table2	65	218.855	0.05230769	
Canada	M	na	skiddoo driving -- no load	Other	na	na	3.4	(*196*)	table2	65	218.855	0.05230769	
Canada	M	na	bombardier driving	Other	na	na	3.5	(*196*)	table2	65	225.292	0.05384615	
Canada	M	na	carpentry	Other	na	na	3.5	(*196*)	table2	65	225.292	0.05384615	
Canada	M	na	cement mixing	Other	na	na	3.6	(*196*)	table2	65	231.729	0.05538462	
Canada	M	na	sled passenger	Other	na	na	3.6	(*196*)	table2	65	231.729	0.05538462	
Canada	M	na	oil delivery	Other	na	na	3.8	(*196*)	table2	65	244.603	0.05846154	
Canada	M	na	outside painting (scaffolding)	Other	na	na	4	(*196*)	table2	65	257.477	0.06153846	
Canada	M	na	hauling nets	Other	na	na	4	(*196*)	table2	65	257.477	0.06153846	
Canada	M	na	garage work	Other	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	
Canada	M	na	janitorial work	Other	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	
Canada	M	na	bombardier repairs	Other	na	na	4.3	(*196*)	table2	65	276.788	0.06615385	
Canada	M	na	warehouse work	Other	na	na	4.3	(*196*)	table2	65	276.788	0.06615385	
Canada	M	na	cutting dog meat	Food Preparation	na	na	4.3	(*196*)	table2	65	276.788	0.06615385	
Canada	M	na	driving case tractor	Other	na	na	4.5	(*196*)	table2	65	289.662	0.06923077	
Canada	M	na	generator maintenance	Other	na	na	4.8	(*196*)	table2	65	308.972	0.07384615	

Canada	M	na	aircraft unloading	Other	na	na	5	(*196*)	table2	65	321.846	0.07692308	
Canada	M	na	ice distribution	Other	na	na	5.15	(*196*)	table2	65	331.502	0.07923077	
Canada	M	na	igloo building	Domestic Labor	na	na	5.4	(*196*)	table2	65	347.594	0.08307692	
Canada	M	na	checking nets by canoe	Foraging	na	na	6.65	(*196*)	table2	65	428.055	0.10230769	
Canada	M	na	seal hunt	Foraging	na	na	5.8	(*196*)	table2	65	373.342	0.08923077	
Canada	M	na	snowmobile delivery	Other	na	na	5.9	(*196*)	table2	65	379.778	0.09076923	
Canada	M	na	loading meat	Foraging	na	na	6.4	(*196*)	table2	65	411.963	0.09846154	
Canada	M	na	skinning seal	Foraging	na	na	6.5	(*196*)	table2	65	418.4	0.1	
Canada	M	na	garbage collection	Other	na	na	7.15	(*196*)	table2	65	460.24	0.11	
Canada	M	na	walrus hauling	Foraging	na	na	6.7	(*196*)	table2	65	431.274	0.10307692	
Canada	M	na	digging ice hole	Foraging	na	na	6.8	(*196*)	table2	65	437.711	0.10461538	
Canada	M	na	loading sledge	Other	na	na	6.9	(*196*)	table2	65	444.148	0.10615385	
Canada	M	na	feeding dogs	Other	na	na	7.2	(*196*)	table2	65	463.458	0.11076923	
Canada	M	na	walrus skinning	Foraging	na	na	10.2	(*196*)	table2	65	656.566	0.15692308	
Canada	M	na	night rest	Other	na	na	1.2	(*196*)	table2	65	77.2431	0.01846154	Approximate values, see Table 2 for estimation method.
Canada	M	na	eating	Resting	na	na	1.5	(*196*)	table2	65	96.5538	0.02307692	Approximate values, see Table 2 for estimation method.
Canada	M	na	sitting	Resting	na	na	1.65	(*196*)	table2	65	106.209	0.02538462	Approximate values, see Table 2 for estimation method.
Canada	M	na	standing	Resting	na	na	2	(*196*)	table2	65	128.738	0.03076923	Approximate values, see Table 2 for estimation method.

Canada	M	na	preparing stove	Food Preparation	na	na	2	(*196*)	table2	65	128.738	0.03076923	Approximate values, see Table 2 for estimation method.
Canada	M	na	fishing (jig)	Foraging	na	na	2	(*196*)	table2	65	128.738	0.03076923	Approximate values, see Table 2 for estimation method.
Canada	M	na	standing at helm	Other	na	na	2.2	(*196*)	table2	65	141.612	0.03384615	Approximate values, see Table 2 for estimation method.
Canada	M	na	fixing dog harness	Domestic Labor	na	na	2.2	(*196*)	table2	65	141.612	0.03384615	Approximate values, see Table 2 for estimation method.
Canada	M	na	throwing rocks	Other	na	na	2.2	(*196*)	table2	65	141.612	0.03384615	Approximate values, see Table 2 for estimation method.
Canada	M	na	bombardier pass	Other	na	na	2.4	(*196*)	table2	65	154.486	0.03692308	Approximate values, see Table 2 for estimation method.
Canada	M	na	chaining dogs	Domestic Labor	na	na	2.8	(*196*)	table2	65	180.234	0.04307692	Approximate values, see Table 2 for estimation method.
Canada	M	na	manoeuvring skiddoo	Other	na	na	3.2	(*196*)	table2	65	205.982	0.04923077	Approximate values, see Table 2 for estimation method.
Canada	M	na	repairing tentpole	Other	na	na	3.3	(*196*)	table2	65	212.418	0.05076923	Approximate values, see

													Table 2 for estimation method.
Canada	M	na	welding	Other	na	na	3.9	(*196*)	table2	65	251.04	0.06	Approximate values, see Table 2 for estimation method.
Canada	M	na	walrus hunting	Foraging	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	Approximate values, see Table 2 for estimation method.
Canada	M	na	setting up camp	Domestic Labor	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	Approximate values, see Table 2 for estimation method.
Canada	M	na	hunt preparation	Other	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	Approximate values, see Table 2 for estimation method.
Canada	M	na	getting small rocks	Other	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	Approximate values, see Table 2 for estimation method.
Canada	M	na	erection of tent	Domestic Labor	na	na	4.2	(*196*)	table2	65	270.351	0.06461538	Approximate values, see Table 2 for estimation method.
Canada	M	na	walking (3 mph, smooth ground)	Walking	na	na	4.4	(*196*)	table2	65	283.225	0.06769231	Approximate values, see Table 2 for estimation method.
Canada	M	na	holding sled downhill	Other	na	na	6.2	(*196*)	table2	65	399.089	0.09538462	Approximate values, see Table 2 for

													estimation method.
Canada	M	na	setting nets by boat	Foraging	na	na	7.7	(*196*)	table2	65	495.643	0.11846154	Approximate values, see Table 2 for estimation method.
Canada	F	na	dish washing	Domestic Labor	na	na	1.7	(*196*)	table2	55	129.324	0.03090909	
Canada	F	na	snowmobile passenger	Other	na	na	1.8	(*196*)	table2	55	136.931	0.03272727	
Canada	F	na	sewing	Domestic Labor	na	na	2	(*196*)	table2	55	152.145	0.03636364	
Canada	F	na	soapstone carving	Domestic Labor	na	na	2	(*196*)	table2	55	152.145	0.03636364	
Canada	F	na	washing clothes	Domestic Labor	na	na	2.3	(*196*)	table2	55	174.967	0.04181818	
Canada	F	na	Domestic Labor	Domestic Labor	na	na	2.4	(*196*)	table2	55	182.575	0.04363636	
Canada	F	na	scraping furs	Domestic Labor	na	na	2.9	(*196*)	table2	55	220.611	0.05272727	
Canada	F	na	making bannock	Domestic Labor	na	na	2.9	(*196*)	table2	55	220.611	0.05272727	
Canada	F	na	washing floors	Domestic Labor	na	na	2.9	(*196*)	table2	55	220.611	0.05272727	
Canada	F	walking	walking	Walking	na	na	3	(*196*)	table2	55	228.218	0.05454545	
Canada	F	walking	walking (baby in Yappa)	Walking	na	na	3.8	(*196*)	table2	55	289.076	0.06909091	
Canada	F	na	chewing skins	Domestic Labor	na	na	5.3	(*196*)	table2	55	403.185	0.09636364	
Canada	F	na	night rest	Resting	na	na	1	(*196*)	table2	55	76.0727	0.01818182	Approximate values, see Table 2 for estimation method.
Canada	F	na	kneeling (church)	Social	na	na	1.1	(*196*)	table2	55	83.68	0.02	Approximate values, see Table 2 for estimation method.
Canada	F	sitting	sitting	Resting	na	na	1.1	(*196*)	table2	55	83.68	0.02	Approximate values, see Table 2 for estimation method.
Canada	F	standing	standing	Resting	na	na	1.1	(*196*)	table2	55	83.68	0.02	Approximate values, see

													Table 2 for estimation method.
Canada	F	na	eating	Resting	na	na	1.5	(*196*)	table2	55	114.109	0.02727273	Approximate values, see Table 2 for estimation method.
Canada	F	na	accordion playing	Social	na	na	1.7	(*196*)	table2	55	129.324	0.03090909	Approximate values, see Table 2 for estimation method.
Canada	F	na	ironing	Domestic Labor	na	na	1.7	(*196*)	table2	55	129.324	0.03090909	Approximate values, see Table 2 for estimation method.
Canada	F	na	baby care	Domestic Labor	na	na	2.5	(*196*)	table2	55	190.182	0.04545455	Approximate values, see Table 2 for estimation method.
Canada	F	na	folding clothes	Domestic Labor	na	na	2.5	(*196*)	table2	55	190.182	0.04545455	Approximate values, see Table 2 for estimation method.
Canada	F	na	hanging clothes	Domestic Labor	na	na	2.6	(*196*)	table2	55	197.789	0.04727273	Approximate values, see Table 2 for estimation method.
Canada	F	na	making beds	Domestic Labor	na	na	3.5	(*196*)	table2	55	266.255	0.06363636	Approximate values, see Table 2 for estimation method.
Canada	F	na	cleaning yard	Domestic Labor	na	na	3.5	(*196*)	table2	55	266.255	0.06363636	Approximate values, see Table 2 for

													estimation method.
Cameroon	F	lying	lying at rest	Resting	53	3.83	na	(*148*)	table25.2	54.1	70.7948	0.01692037	body size estimates don't exactly match sample for respirometry
Cameroon	M	lying	lying at rest	Resting	68	4.6	na	(*148*)	table25.2	60.3	76.2852	0.01823261	body size estimates don't exactly match sample for respirometry
Cameroon	F	sitting	sitting at rest	Resting	55	4.35	na	(*148*)	table25.2	54.1	80.4067	0.01921765	body size estimates don't exactly match sample for respirometry
Cameroon	M	sitting	sitting at rest	Resting	52	5.29	na	(*148*)	table25.2	60.3	87.728	0.0209675	body size estimates don't exactly match sample for respirometry
Cameroon	F	standing	standing at rest	Resting	34	4.47	na	(*148*)	table25.2	54.1	82.6248	0.01974779	body size estimates don't exactly match sample for respirometry
Cameroon	M	standing	standing at rest	Resting	42	5.76	na	(*148*)	table25.2	60.3	95.5224	0.0228304	body size estimates don't exactly match sample for respirometry
Cameroon	F	walking	walking, usual pace	Walking	18	9.68	na	(*148*)	table25.2	54.1	178.928	0.0427648	body size estimates don't exactly match sample for respirometry
Cameroon	M	walking	walking, usual pace	Walking	17	11.73	na	(*148*)	table25.2	60.3	194.527	0.04649316	body size estimates don't exactly match sample for respirometry

Cameroon	F	walking	walking with 30kg load	Walking	19	13.14	na	(*148*)	table25.2	54.1	242.884	0.05805056	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	weeding	Farm Labor	16	14.26	na	(*148*)	table25.2	54.1	263.586	0.06299855	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	bush clearing	Farm Labor	19	19.59	na	(*148*)	table25.2	60.3	324.876	0.07764714	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	chopping wood with machete	Farm Labor	13	13.01	na	(*148*)	table25.2	54.1	240.481	0.05747624	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	planting manioc	Farm Labor	11	13.9	na	(*148*)	table25.2	54.1	256.932	0.06140813	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	hoeing manioc	Farm Labor	18	13.94	na	(*148*)	table25.2	54.1	257.671	0.06158484	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	harvesting manioc	Farm Labor	11	12.65	na	(*148*)	table25.2	54.1	233.826	0.05588581	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	pounding manioc	Food Preparation	26	9.46	na	(*148*)	table25.2	54.1	174.861	0.04179287	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	peeling manioc	Food Preparation	8	6.77	na	(*148*)	table25.2	54.1	125.139	0.02990885	body size estimates don't

	F												exactly match sample for respirometry
Cameroon	F	na	sieving manioc	Food Preparation	11	8.1	na	(*148*)	table25.2	54.1	149.723	0.03578459	body size estimates don't exactly match sample for respirometry
Cameroon	F	na	packing the 'batons de manioc'	Food Preparation	6	6.43	na	(*148*)	table25.2	54.1	118.854	0.02840678	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	paddling canoe, low intensity	Foraging	9	14.73	na	(*148*)	table25.2	60.3	244.279	0.05838399	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	paddling canoe, high intensity	Foraging	15	19.64	na	(*148*)	table25.2	60.3	325.705	0.07784532	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	fishing, settling down the net	Foraging	7	11.46	na	(*148*)	table25.2	60.3	190.05	0.04542298	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	fishing, pulling up the net	Foraging	14	16.09	na	(*148*)	table25.2	60.3	266.833	0.0637745	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	fishing tackle maintenance	Manufacture	7	8.22	na	(*148*)	table25.2	60.3	136.318	0.03258088	body size estimates don't exactly match sample for respirometry
Cameroon	M	na	building a canoe from a tree	Domestic Labor	10	21.5	na	(*148*)	table25.2	60.3	356.551	0.08521763	body size estimates don't exactly match

													sample for respirometry
Burkina Faso	F	lying	lying	Resting	29	5.19	na	(*197*)	table2	55	94.3636	0.02255345	
Burkina Faso	F	sitting	sitting	Resting	27	5.4	na	(*197*)	table2	55	98.1818	0.02346602	
Burkina Faso	F	standing	standing	Resting	27	5.65	na	(*197*)	table2	55	102.727	0.02455241	
Burkina Faso	F	walking	walking	Walking	18	12.6	na	(*197*)	table2	55	229.091	0.05475404	
Burkina Faso	F	na	sowing	Domestic Labor	4	15.9	na	(*197*)	table2	55	289.091	0.06909439	
Burkina Faso	F	na	thinning out and replanting	Farm Labor	5	14.9	na	(*197*)	table2	55	270.909	0.06474883	
Burkina Faso	F	na	hoeing	Farm Labor	11	18.1	na	(*197*)	table2	55	329.091	0.07865461	
Burkina Faso	F	na	grinding grain on a millstone	Food Preparation	24	17.4	na	(*197*)	table2	55	316.364	0.07561272	
Burkina Faso	F	na	pounding	Food Preparation	32	19	na	(*197*)	table2	55	345.455	0.08256562	
Burkina Faso	F	na	fetching water from well	Domestic Labor	21	17.1	na	(*197*)	table2	55	310.909	0.07430906	
Burkina Faso	F	na	fetching water from swamp	Domestic Labor	2	16.2	na	(*197*)	table2	55	294.545	0.07039805	
Burkina Faso	F	na	washing clothes	Domestic Labor	3	13.5	na	(*197*)	table2	55	245.455	0.05866504	
Burkina Faso	F	na	stirring sorghum or millet porridge	Food Preparation	7	15.6	na	(*197*)	table2	55	283.636	0.06779072	
Burkina Faso	M	lying	lying	Resting	31	5.81	na	(*198*)	table2	60	96.8333	0.02314372	
Burkina Faso	M	sitting	sitting	Resting	33	5.77	na	(*198*)	table2	60	96.1667	0.02298438	
Burkina Faso	M	standing	standing	Resting	29	6.02	na	(*198*)	table2	60	100.333	0.02398024	
Burkina Faso	M	walking	walking	Walking	25	15	na	(*198*)	table2	60	250	0.05975143	
Burkina Faso	M	na	walking slowly	Walking	4	12.3	na	(*198*)	table2	60	205	0.04899618	
Burkina Faso	M	na	walking fast	Walking	2	17.6	na	(*198*)	table2	60	293.333	0.07010835	
Burkina Faso	M	na	cycling	Other	12	18.4	na	(*198*)	table2	60	306.667	0.07329509	
Burkina Faso	M	na	sowing	Farm Labor	5	16.4	na	(*198*)	table2	60	273.333	0.06532823	
Burkina Faso	M	na	thinning out and replanting	Farm Labor	8	15.8	na	(*198*)	table2	60	263.333	0.06293818	
Burkina Faso	M	na	hoeing	Farm Labor	11	21.3	na	(*198*)	table2	60	355	0.08484704	
Burkina Faso	M	na	land clearing	Farm Labor	2	29	na	(*198*)	table2	60	483.333	0.11551944	

Burkina Faso	M	na	sorghum harvest,standing, cutting ears with knife or by hand	Farm Labor	6	10	na	(*198*)	table2	60	166.667	0.03983429	
Burkina Faso	M	na	bent forward, uprooting sweet potatoes with a hoe	Farm Labor	5	16.3	na	(*198*)	table2	60	271.667	0.06492989	
Burkina Faso	M	na	plucking leaves and stems from sweet potato plants, standing	Farm Labor	1	28.5	na	(*198*)	table2	60	475	0.11352772	
Burkina Faso	M	na	kneeling and sorting sweet potatoes	Farm Labor	1	7.4	na	(*198*)	table2	60	123.333	0.02947737	
Burkina Faso	M	na	cutting straw with a sickle, bent forward	Farm Labor	3	23.4	na	(*198*)	table2	60	390	0.09321224	
Burkina Faso	M	na	walking with a sheaf of straw on his head, 11.5kg	Farm Labor	1	14.2	na	(*198*)	table2	60	236.667	0.05656469	
Burkina Faso	M	na	pulling and breaking into pieces branches from dead trees, walking and bending forward	Farm Labor	2	15.9	na	(*198*)	table2	60	265	0.06333652	
Burkina Faso	M	na	cutting wood with a machete, standing	Farm Labor	1	19.2	na	(*198*)	table2	60	320	0.07648184	
Burkina Faso	M	na	unloading a cart of branches	Farm Labor	2	15	na	(*198*)	table2	60	250	0.05975143	
Burkina Faso	M	na	vine weaving	Domestic Labor	2	9.8	na	(*198*)	table2	60	163.333	0.0390376	
Burkina Faso	M	na	hand weaving sitting on the ground	Domestic Labor	2	10.9	na	(*198*)	table2	60	181.667	0.04341938	
Burkina Faso	M	na	hand sewing	Domestic Labor	1	7.5	na	(*198*)	table2	60	125	0.02987572	
Burkina Faso	M	na	dewing with treadle sewing machine	Domestic Labor	3	10	na	(*198*)	table2	60	166.667	0.03983429	
Burkina Faso	M	na	clay kneading	Domestic Labor	1	12.5	na	(*198*)	table2	60	208.333	0.04979286	
Burkina Faso	M	na	sawing a calabash by hand, bending forward	Domestic Labor	1	13	na	(*198*)	table2	60	216.667	0.05178458	
Burkina Faso	M	na	making mud bricks, squatting	Domestic Labor	3	13.8	na	(*198*)	table2	60	230	0.05497132	
Burkina Faso	M	na	standing making a mud wall	Domestic Labor	1	7.1	na	(*198*)	table2	60	118.333	0.02828235	
Burkina Faso	M	na	digging the earth with a pick-axe to make mud	Domestic Labor	2	26.6	na	(*198*)	table2	60	443.333	0.10595921	
Burkina Faso	M	na	shoveling the mud	Domestic Labor	2	20.5	na	(*198*)	table2	60	341.667	0.08166029	

Burkina Faso	M	na	copying verses of the koran, sitting	Social	1	5.1	na	(*198*)	table2	60	85	0.02031549	
West Africa	M	bending	grass cutting	Farm Labor	6	na	4.48	(*199*)	na	54.7	342.675	0.08190128	
West Africa	M	standing	bush clearing with machete	Farm Labor	6	na	6.2	(*199*)	na	54.7	474.238	0.11334552	
West Africa	M	na	hoeing with short spade	Farm Labor	6	na	4.57	(*199*)	na	54.7	349.559	0.08354662	
West Africa	M	na	tree felling	Farm Labor	5	na	8.4	(*199*)	na	54.7	642.516	0.1535649	
West Africa	M	na	sawing	Farm Labor	5	na	6	(*199*)	na	54.7	458.94	0.10968921	
West Africa	M	walking	walking	Walking	6	na	3.06	(*199*)	na	54.7	234.059	0.0559415	
West Africa	M	sitting	sitting	Resting	7	na	1.3	(*199*)	na	54.7	99.4369	0.023766	
West Africa	M	standing	standing	Resting	6	na	1.3	(*199*)	na	54.7	99.4369	0.023766	
India	M	standing	ploughing	Farm Labor	11	na	5.48	(*200*)	na	na	na	na	
India	M	standing	working push hoe	Farm Labor	12	na	4.66	(*200*)	na	na	na	na	
India	M	standing	making channels for irrigation	Farm Labor	6	na	3.25	(*200*)	na	na	na	na	
India	M	standing	harvesting	Farm Labor	10	na	3.8	(*200*)	na	na	na	na	
India	M	na	making of bundles	Farm Labor	9	na	3.48	(*200*)	na	na	na	na	
India	M	na	threshing	Farm Labor	9	na	5.27	(*200*)	na	na	na	na	
China	F	sitting	sitting inactive	Resting	11	na	1.08	(*201*)	na	47	96.143	0.02297872	
China	F	standing	standing resting	Resting	4	na	1.43	(*201*)	na	47	127.3	0.03042553	
China	F	squatting	squatting washing clothes	Domestic Labor	4	na	2.09	(*201*)	na	47	186.054	0.04446809	
China	F	standing	standing hoeing	Farm Labor	3	na	3.82	(*201*)	na	47	340.061	0.0812766	
China	F	bending	planting potatoes	Farm Labor	7	na	3.39	(*201*)	na	47	301.782	0.07212766	
China	F	bending	harvesting potatoes	Farm Labor	8	na	2.36	(*201*)	na	47	210.09	0.05021277	
China	F	standing	ploughing with buffalo	Farm Labor	4	na	2.94	(*201*)	na	47	261.723	0.06255319	
China	F	standing	sowing rice	Farm Labor	10	na	2.15	(*201*)	na	47	191.396	0.04574468	
China	F	bending	transplanting rice	Farm Labor	31	na	2.84	(*201*)	na	47	252.82	0.06042553	
China	F	bending	cutting rice	Farm Labor	26	na	3.22	(*201*)	na	47	286.649	0.06851064	
China	F	squatting	bundling rice	Farm Labor	6	na	2.42	(*201*)	na	47	215.431	0.05148936	
China	F	standing	threshing rice	Farm Labor	8	na	3.97	(*201*)	na	47	353.414	0.08446809	

China	F	walking	carrying 30-35kg load	Walking	5	na	3.75	(*201*)	na	47	333.83	0.07978723	
China	F	walking	tapping rubber	Farm Labor	5	na	2.52	(*201*)	na	47	224.334	0.05361702	
Nepal	F	sitting	sitting rest	Resting	19	4.68	na	(*202*)	table3	46.67	100.279	0.02396715	
Nepal	F	standing	pounding grain	Food Preparation	13	6.96	na	(*202*)	table3	46.67	149.132	0.03564345	
Nepal	F	standing	hoeing fields	Farm Labor	6	18.13	na	(*202*)	table3	46.67	388.472	0.0928471	
Nepal	F	walking	walking uphill with <10kg load	Walking	19	23.2	na	(*202*)	table4	46.67	497.107	0.11881151	
Nepal	F	walking	walking level with <10kg load	Walking	7	19.57	na	(*202*)	table4	46.67	419.327	0.1002216	
Nepal	F	walking	walking downhill with <10kg load	Walking	1	10.97	na	(*202*)	table4	46.67	235.055	0.05617941	
Nepal	F	walking	carrying a 10-39kg load uphill	Walking	2	20.09	na	(*202*)	table4	46.67	430.469	0.10288462	
Nepal	F	walking	carrying a 10-39kg load level	Walking	7	15.85	na	(*202*)	table4	46.67	339.619	0.08117079	
Nepal	F	walking	carrying a 10-39kg load downhill	Walking	12	12.96	na	(*202*)	table4	46.67	277.694	0.06637057	
Nepal	F	walking	carrying a 40-55kg load uphill	Walking	na	na	na	(*202*)	table4	46.67	na	na	
Nepal	F	walking	carrying a 40-55kg load level	Walking	1	16.33	na	(*202*)	table4	46.67	349.904	0.08362896	
Nepal	F	walking	carrying a 40-55kg load downhill	Walking	8	15.2	na	(*202*)	table4	46.67	325.691	0.07784202	
Guatemala	F	lying	lying down	Resting	23	na	1.14	(*203*)	table1	55	86.7229	0.02072727	
Guatemala	F	standing	standing	Resting	8	na	1.15	(*203*)	table1	55	87.4836	0.02090909	
Guatemala	F	na	sitting or sewing	Domestic Labor	20	na	1.2	(*203*)	table1	55	91.2873	0.02181818	
Guatemala	F	na	nursing	Domestic Labor	d	na	1.2	(*203*)	table1	55	91.2873	0.02181818	
Guatemala	F	na	eating	Resting	d	na	1.2	(*203*)	table1	55	91.2873	0.02181818	
Guatemala	F	na	ironing clothes	Domestic Labor	1	na	1.44	(*203*)	table1	55	109.545	0.02618182	
Guatemala	F	na	picking coffee	Farm Labor	6	na	1.5	(*203*)	table1	55	114.109	0.02727273	
Guatemala	F	na	winnowing or dekernelizing corn	Food Preparation	15	na	1.63	(*203*)	table1	55	123.999	0.02963636	
Guatemala	F	na	washing dishes	Domestic Labor	1	na	1.68	(*203*)	table1	55	127.802	0.03054545	
Guatemala	F	na	cooking	Food Preparation	19	na	1.75	(*203*)	table1	55	133.127	0.03181818	

Guatemala	F	na	making tortillas	Food Preparation	48	na	2.08	(*203*)	table1	55	158.231	0.03781818	
Guatemala	F	na	housecleaning	Domestic Labor	16	na	2.2	(*203*)	table1	55	167.36	0.04	
Guatemala	F	na	child care	Domestic Labor	4	na	2.22	(*203*)	table1	55	168.881	0.04036364	
Guatemala	F	na	washing clothes	Domestic Labor	16	na	2.69	(*203*)	table1	55	204.636	0.04890909	
Guatemala	F	na	sweeping	Domestic Labor	33	na	3.12	(*203*)	table1	55	237.347	0.05672727	
Guatemala	F	na	cutting fruit with a pole	Farm Labor	1	na	3.34	(*203*)	table1	55	254.083	0.06072727	
Guatemala	F	na	gleaning	Farm Labor	5	na	3.95	(*203*)	table1	55	300.487	0.07181818	
Guatemala	F	na	lifting and moving objects	Domestic Labor	4	na	4.04	(*203*)	table1	55	307.334	0.07345455	
Guatemala	F	walking	walking uphill	Walking	18	na	4.25	(*203*)	table1	55	323.309	0.07727273	
Guatemala	F	standing	chopping wood with machete	Farm Labor	6	na	4.32	(*203*)	table1	55	328.634	0.07854545	
Guatemala	F	walking	carrying a load uphill	Walking	24	na	4.88	(*203*)	table1	55	371.235	0.08872727	
The Gambia	F	sitting	sewing	Domestic Labor	15	na	1.29	(*204*)	table3	49.8	108.381	0.02590361	
The Gambia	F	sitting	plaiting hair	Domestic Labor	30	na	1.52	(*204*)	table3	49.8	127.704	0.03052209	
The Gambia	F	bending	sweeping	Domestic Labor	8	na	3.22	(*204*)	table3	49.8	270.532	0.06465863	
The Gambia	F	standing	drawing water	Domestic Labor	182	na	2.96	(*204*)	table3	49.8	248.688	0.05943775	
The Gambia	F	bending	washing clothes	Domestic Labor	63	na	3.2	(*204*)	table3	49.8	268.851	0.06425703	
The Gambia	F	bending	washing dishes	Domestic Labor	21	na	2.23	(*204*)	table3	49.8	187.356	0.04477912	
The Gambia	F	sitting	preparing chilies for drying	Food Preparation	11	na	1.39	(*204*)	table3	49.8	116.782	0.02791165	
The Gambia	F	sitting	shelling groundnuts	Food Preparation	85	na	1.41	(*204*)	table3	49.8	118.463	0.02831325	
The Gambia	F	sitting	sorting groundnuts	Food Preparation	4	na	1.51	(*204*)	table3	49.8	126.864	0.03032129	
The Gambia	F	sitting	roasting groundnuts	Food Preparation	12	na	1.52	(*204*)	table3	49.8	127.704	0.03052209	
The Gambia	F	sitting	pounding roasted groundnuts	Food Preparation	15	na	2.22	(*204*)	table3	49.8	186.516	0.04457831	
The Gambia	F	squatting	preparing groundnut paste	Food Preparation	18	na	2.52	(*204*)	table3	49.8	211.72	0.05060241	
The Gambia	F	bending	washing grain	Food Preparation	7	na	2	(*204*)	table3	49.8	168.032	0.04016064	
The Gambia	F	standing	pounding grain	Food Preparation	101	na	4.92	(*204*)	table3	49.8	413.359	0.09879518	
The Gambia	F	standing	winnowing pounded grain	Food Preparation	13	na	2.52	(*204*)	table3	49.8	211.72	0.05060241	
The Gambia	F	sitting.bending	sieving grain	Food Preparation	22	na	1.61	(*204*)	table3	49.8	135.266	0.03232932	
The Gambia	F	sitting.bending	mixing steamed millet	Food Preparation	6	na	2.22	(*204*)	table3	49.8	186.516	0.04457831	

The Gambia	F	sitting	gutting and descaling fish	Food Preparation	11	na	1.55	(*204*)	table3	49.8	130.225	0.0311245	
The Gambia	F	sitting	breaking open shellfish with hammer	Food Preparation	3	na	1.64	(*204*)	table3	49.8	137.786	0.03293173	
The Gambia	F	sitting.bending	preparing vegetables	Food Preparation	18	na	1.57	(*204*)	table3	49.8	131.905	0.0315261	
The Gambia	F	sitting	stir pot	Food Preparation	14	na	1.49	(*204*)	table3	49.8	125.184	0.02991968	
The Gambia	F	lying	lying	Resting	25	na	1.21	(*204*)	table 2	49.8	101.659	0.02429719	
The Gambia	F	sitting	sitting	Resting	174	na	1.25	(*204*)	table 2	49.8	105.02	0.0251004	
The Gambia	F	standing	standing	Resting	113	na	1.26	(*204*)	table 2	49.8	105.86	0.0253012	
The Gambia	F	sitting	sitting breast-feeding	Resting	14	na	1.33	(*204*)	table 2	49.8	111.741	0.02670683	
The Gambia	F	standing	standing carrying a child	Domestic Labor	17	na	1.33	(*204*)	table 2	49.8	111.741	0.02670683	
The Gambia	F	walking	walking to fields (4.4kph)	Walking	106	na	3.17	(*204*)	table 2	49.8	266.331	0.06365462	
The Gambia	F	walking	walking with a load (4.4kph)	Walking	14	na	3.51	(*204*)	table 2	49.8	294.896	0.07048193	
Bwindi, Uganda	F	na	Rest	Resting	8	na	na	Venkataraman et al. *Unpublished*	na	na	127.375	na	
Bwindi, Uganda	F	na	Walk on trail	Walking	8	na	na	Venkataraman et al. *Unpublished*	na	na	306.97	na	
Bwindi, Uganda	F	na	Walk off trail	Walking	8	na	na	Venkataraman et al. *Unpublished*	na	na	344.493	na	
Bwindi, Uganda	F	na	Digging tubers	Foraging	8	na	na	Venkataraman et al. *Unpublished*	na	na	455.306	na	
Bolivia	F	standing	Chopping trees (to make field)	Farm Labor	5			this study			416.731	0.099601	
Bolivia	M	standing	Chopping trees (to make field)	Farm Labor	7			this study			458.437	0.109569	
Bolivia	F	standing	Clearing field (with machete)	Farm Labor	5			this study			276.512	0.066088	
Bolivia	M	standing	Clearing field (with machete)	Farm Labor	7			this study			424.375	0.101428	
Bolivia	M	walking	Walking (fast speed)	Walking	3			this study			255.199	0.060994	
Bolivia	F	standing	Weeding (with hoe)	Farm Labor	5			this study			272.592	0.065151	
Bolivia	M	standing	Weeding (with hoe)	Farm Labor	7			this study			327.176	0.078197	

Bolivia	F	walking	Walking (normal speed)	Walking	4			this study			196.204	0.046894	
Bolivia	M	walking	Walking (normal speed)	Walking	7			this study			202.656	0.048436	
Bolivia	F	sitting	Paddling canoe (upriver)	Foraging	2			this study			208.024	0.049719	
Bolivia	M	standing	Poling canoe (upriver)	Foraging	1			this study			475.842	0.113729	
Bolivia	F	standing	Food processing (rice pounding)	Food Preparation	3			this study			350.105	0.083677	
Bolivia	F	sitting	Sitting rest	Resting	5			this study			56.5049	0.013505	
Bolivia	M	sitting	Sitting rest	Resting	6			this study			78.9144	0.018861	
Bolivia	F	standing	Standing rest	Resting	6			this study			75.2032	0.017974	
Bolivia	M	standing	Standing rest	Resting	7			this study			76.6634	0.018323	
Bolivia	M	walking	Walking (slow speed)	Walking	3			this study			181.694	0.043426	
Bolivia	F	walking	Walking on trail (normal speed)	Walking	1			this study			171.071	0.040887	
Bolivia	M	walking	Walking on trail (normal speed)	Walking	3			this study			207.326	0.049552	
Bolivia	F	walking	Walking while carrying baby (normal speed)	Walking	1			this study			142.39	0.034032	
Bolivia	F	walking	Harvesting (walking carrying racimo of plantains)	Farm Labor	1			this study			231.212	0.055261	
Bolivia	M	walking	Harvesting (walking carrying racimo of plantains)	Farm Labor	7			this study			245.266	0.05862	
Bolivia	F	kneeling	Digging crops (yucca)	Farm Labor	1			this study			283.65	0.067794	
Bolivia	M	kneeling	Digging crops (yucca)	Farm Labor	1			this study			238.413	0.056982	
Tanzania	M	standing	Standing rest	Resting	9			this study			99.0508	0.02367371	
Tanzania	F	standing	Standing rest	Resting	5			this study			89.956	0.0215	
Tanzania	F	sitting	Sitting rest	Resting	5			this study			87.0336	0.02080154	
Tanzania	M	climbing	Climbing (baobab tree)	Foraging	6			this study			671.013	0.16037594	
Tanzania	M	standing	Chopping tree	Foraging	6			this study			496.899	0.11876159	
Tanzania	F	kneeling	Digging tubers	Foraging	5			this study			289.805	0.06926517	
Tanzania	M	walking	Walking (preferred speed)	Walking	9			this study			158.331	0.037842	
Tanzania	F	walking	Walking (preferred speed)	Walking	5			this study			137.043	0.032754	

Table S7: Mean fraction of time spent out of camp by Hadza males (data from focal follows). “Other” activities are generally low- to moderate-level physical activities, including lying in wait while hunting, scanning the landscape for animals, inspecting trees for bee nests, harvesting honey, processing foods, or eating. Here we ascribed the cost of non-baobab food processing (less intense than baobab pounding) to this category.

Activity	**Mean fraction of time out of camp**
Walking	0.632
Other	0.224
Digging	0.000
Running	0.001
Chopping	0.049
Resting	0.095
Climbing	10 meters/day

Supplementary figures:

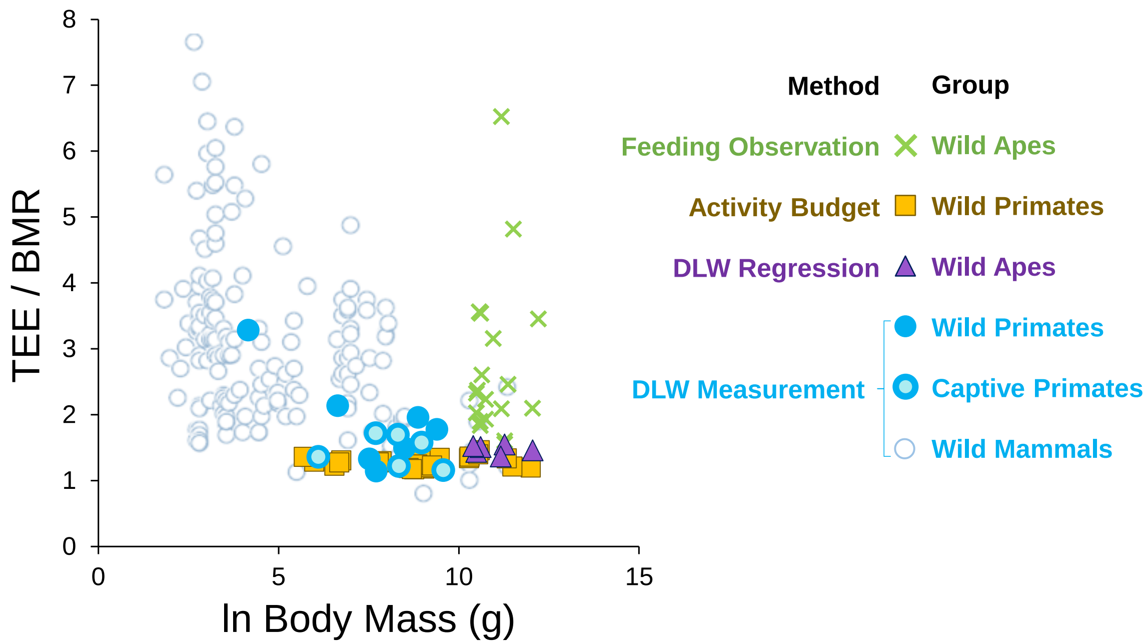

Figure S1. The TEE/BMR ratios for non-human great apes and other primates from feeding observations in wild animals (green ×), activity budget analyses in wild non-human great apes and other primates (yellow squares), DLW-based regressions (purple triangles), and DLW measurements (blue circles) in wild and captive samples of primates and wild samples of non-primate mammals. For DLW measurements in both primates and non-primate mammals, the TEE/BMR ratio trends lower in larger animals; for species >20 kg, mean TEE/BMR < 2.0 (*28*). DLW-based regression estimates for non-human great apes, used in the main analyses in this study, are consistent with measured TEE/BMR ratios in wild primates and other similarly sized mammals and with estimated TEE/BMR ratios from activity budget analyses in non-human great apes and other primates. Feeding studies of wild apes give higher TEE/BMR ratios. Primate data from Table S1. Non-primate mammal data from (*28*).

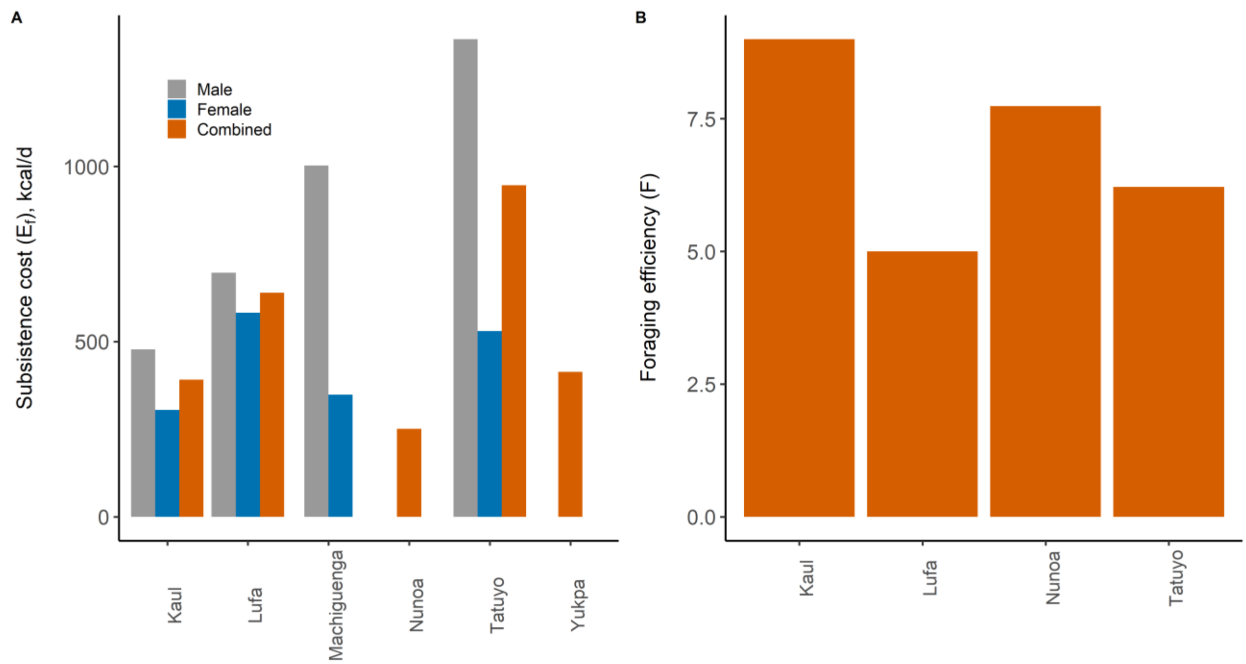

Figure S2: Cross-cultural estimates available for energy cost (panel A: E_f) and efficiency (panel B: F). See supplemental Table 1 for details and sources of data for each society.

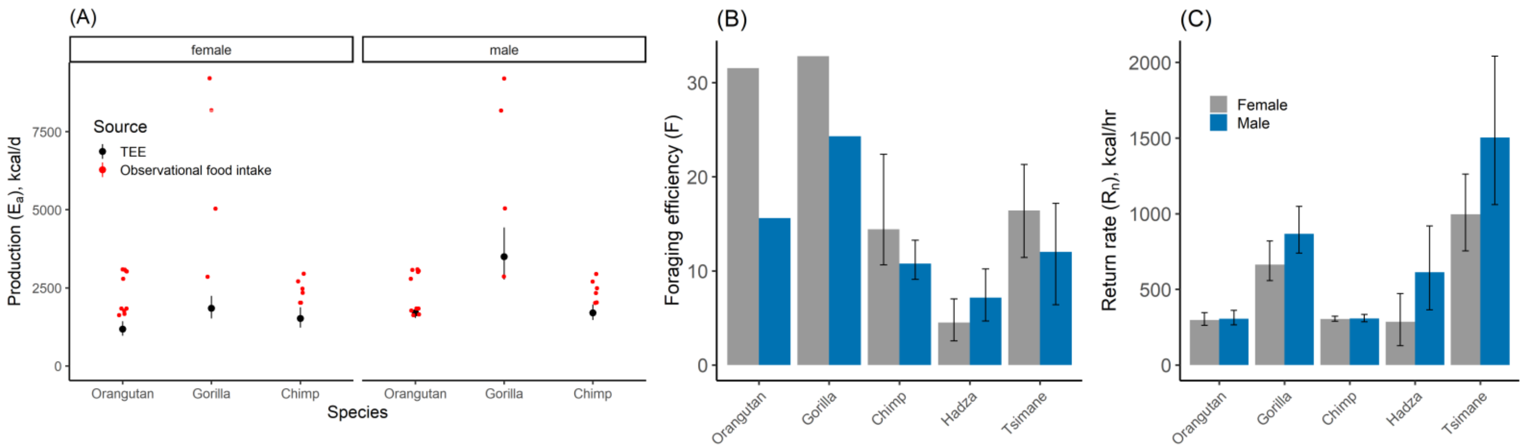

Figure S3: Comparative daily energy acquisition (A), foraging efficiency (B), and net return rate (C) using values of E_a derived from observational field studies of food intake in wild non-human great apes. Data for non-human great apes are presented for individual studies in Table S1. Values from studies that did not differentiate between the sexes were incorporated into averages for both sexes, and the female estimate from (*124*) was excluded due to extreme inconsistencies between intake and body size. We note that high variability in field-based measures of daily energy acquisition in wild primates likely reflects error-compounding estimates of amount of food types eaten, the energy content of foods and their digestibility, energy derived from hindgut processes, and extrapolation from often limited observation periods to daily values.

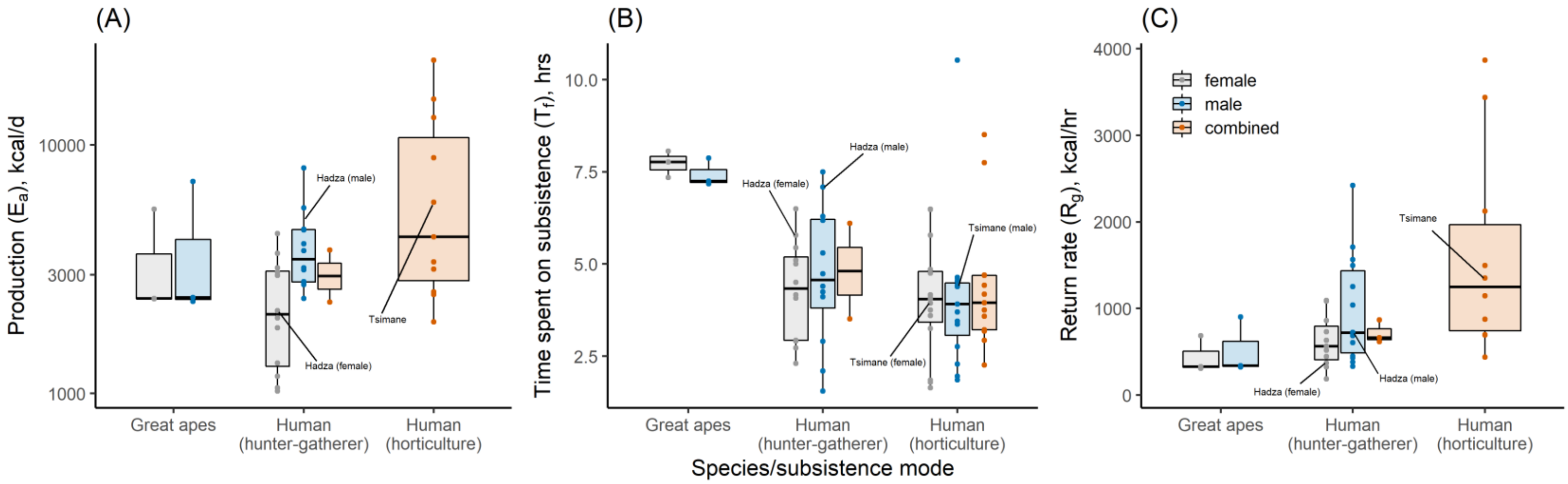

Figure S4: Recreation of Figure 7 from the main text, but using values of E_a derived from observational field studies of food intake in wild non-human great apes. Values from studies that did not differentiate between the sexes were incorporated into averages for both sexes, and the female estimate from (*124*) was excluded due to extreme inconsistencies between intake and body size. Data on humans are unchanged from the original figure.

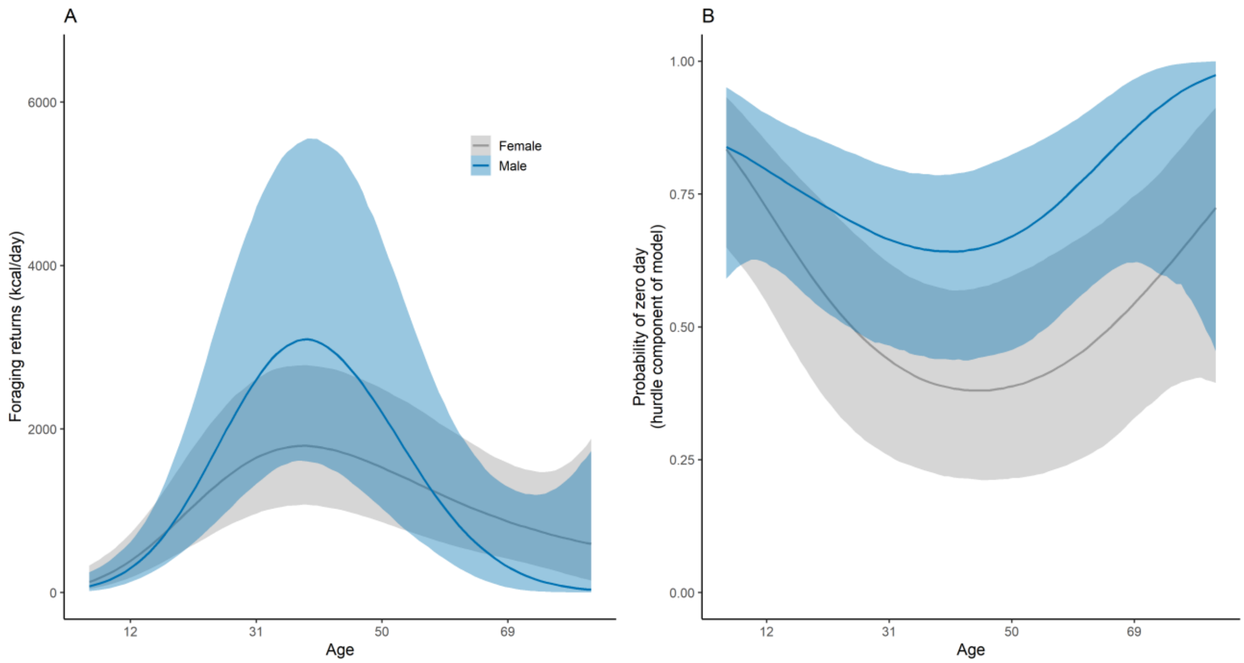

Figure S5: Estimated in-camp foraging returns (A) and probability of acquiring no food (B) for Hadza by age and sex. Lines and shaded regions represent posterior mean and 95% CI from Bayesian hurdle lognormal model. Foraging returns in panel A represent a combination of the probability of zero, and predicted values after crossing the zero threshold (both parts of the hurdle model). Note that "zero-days" do not solely represent failed harvests because the underlying data includes days where individuals rested and did not attempt to acquire food; "zero-days."

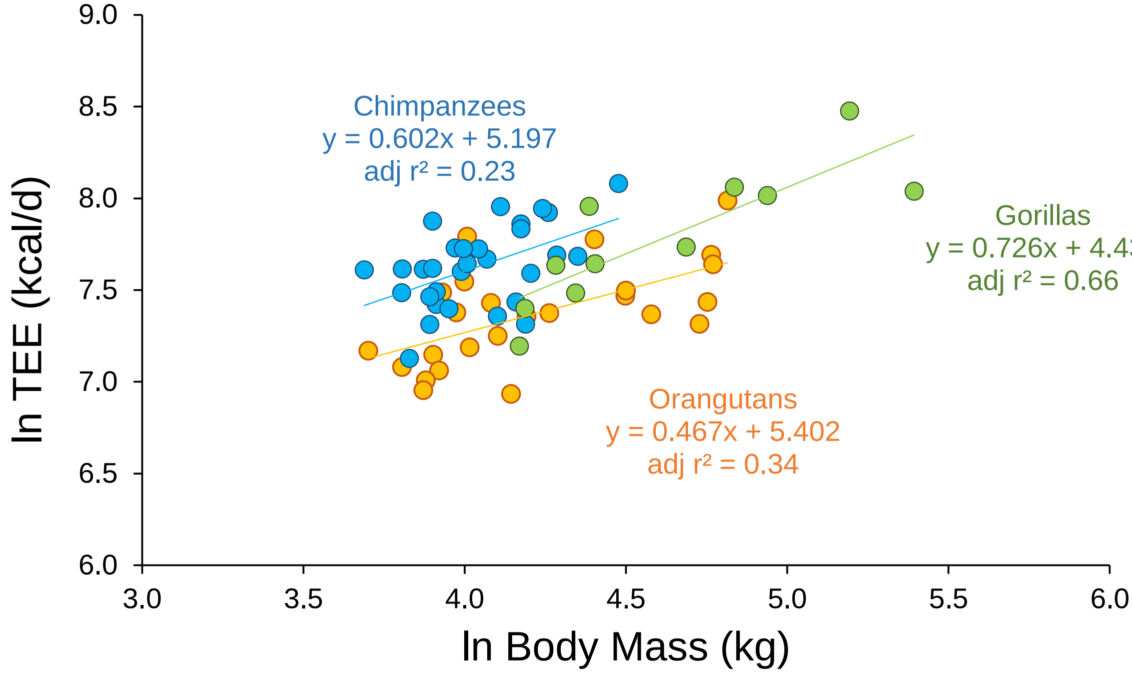

Figure S6: Regressions of ln-transformed TEE (kcal/d) and ln-transformed body mass (kg) for chimpanzees (blue, n=30), gorillas (green, n=11), and orangutans (orange, n=25). Data from (*110*).

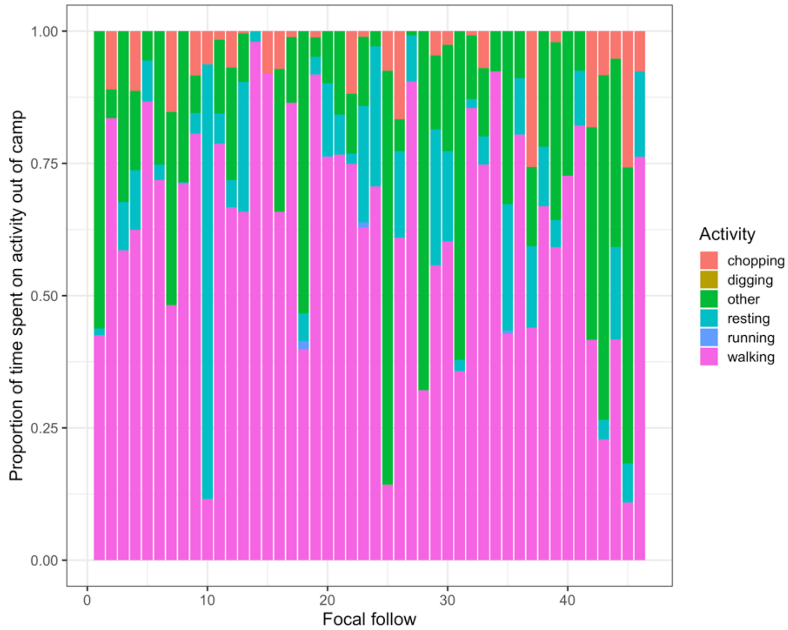

Figure S7: Proportion of time spent on various activities while out of camp by Hadza men (data from focal follows).

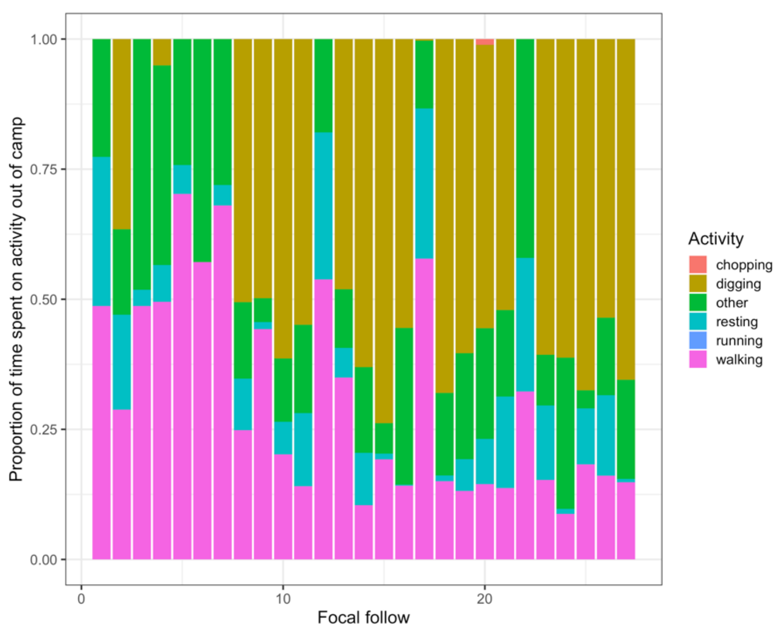

Figure S8: Proportion of time spent on various activities while out of camp by Hadza women (data from focal follows).

Additional methods: Details of the cross-cultural sample

This document provides detailed descriptions of our methods to calculate time allocation, energy expenditure, and caloric production from the cross-cultural dataset.

For each society, we provide the relevant reference(s) along with descriptions for how we estimated the main quantities of interest (production (*Ea*; kcal/day), return rate (*Rg*; kcal/hr), time allocation (*Tf*; hrs/day), energy expenditure (*Ef*; kcal/day), and efficiency (*F*)). Some publications reported return rate or efficiency directly, whereas others reported baseline quantities of *Ea*, *Ef*, and *Tf* and we combined these values to calculate *Rg* or *F*. Unless otherwise stated, return rates were calculated by dividing *Ea* by *Tf*, and efficiency was calculated by dividing *Ea* by *Ef*.

It can be difficult to recreate the calculations of other researchers from the primary and secondary literature when those calculations involve multiple and branching decisions and/or the extraction of data from text, tables, and figures. Due to the breadth of the compiled sample, it was not possible to perfectly standardize every calculation between studies. For example, we would generally prefer to include the time and energy costs of food processing, eating, tool manufacture (for items related to foraging), and the collection of firewood and water in summary estimates. However, many of these categories are not available for most societies. To maximize comparability, we therefore exclude all of these categories (except for food processing) from our final values, but include columns in our supplementary data table noting whether these categories were included because we could not disaggregate them from other time values. We have also maintained records of where data on these different activity categories are available so that values could be recalculated with their inclusion (available on request). Because food processing was available in the majority of cases, it is included whenever possible.

Sometimes data were available but the manner in which they were presented in the original publications precluded our ability to make calculations. We have attempted to include as many studies as possible while providing detailed information about how our calculations were performed. In some cases, we were able to clarify or acquire further information from the authors.

Ache

Hawkes, K., Hill, K., & O'Connell J.F. 1982. Why hunters gather: optimal foraging and the Ache of eastern Paraguay. American Ethnologist 9(2):379-398.

1) **Return rate (*Rg*) (for combined men/women):** Aggregated caloric returns and total foraging hours are reported in Table 2. Because values are not decomposed by sex, we calculated a combined return rate for men/women by dividing the total number of calories acquired by the total number of foraging hours, which includes carrying. Processing time does appear to be already incorporated into the estimate of "Total foraging hours" based on the numbers presented on page 392, which explicitly notes that

4086 is the total hunting and processing hours for game (same number reported in Table 2).

Hill, K., Kaplan, H., Hawkes, K., & Hurtado, A. M. 1987. Foraging decisions among Ache hunter-gatherers: new data and implications for optimal foraging models. Ethology and Sociobiology 8(1):1-36.

2) **Return rate (*Rg*) (for men and women separately):** Values from Table 1 in column named “In Forest with Process”. Note that values are reported in original source in kcals per hour separately for men and women.

Hill, K., Hawkes, K., Hurtado, M., & Kaplan, H. 1984. Seasonal variance in the diet of Ache hunter-gatherers in eastern Paraguay. Human Ecology, *12*(2): 101-135.

3) **Time Allocation (*Tf*):** Time spent on subsistence is obtained from Table 5. For men, this category included "walking", "Game pursuit", "Chopping", and "Butchering and manufacture." For women, it included "Walking", "Collecting", "Chopping tree", and "Food processing and manufacture".

Kaplan, H., Hill, K., Lancaster, J., & Hurtado, A. M. (2000). A theory of human life history evolution: Diet, intelligence, and longevity. *Evolutionary Anthropology: Issues, News, and Reviews*, *9*(4), 156-185.

4) **Production (*Ea*): Data taken directly from Table 2 for Ache men and women.**

Anberra

Kaplan, H., Hill, K., Lancaster, J. and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

Meehan, B. 1982. Shell bed to shell midden. Canberra: Australian Institute of Aboriginal Studies.

1) **Production (*Ea*):** Original data from Meehan (1982). We used the values from Table 2 of Kaplan (2000) and the assumptions contained therein.

Arnhem

Kaplan, H., Hill, K., Lancaster, J. and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

McArthur M. 1960. Food consumption and dietary levels of groups of aborigines living on naturally occurring foods. In: Mountford CP, editor. Records of the American-Australian scientific expedition to Arnhem Land. Melbourne: Melbourne University Press. pp. 90–135.

McCarthy, F. D. & McArthur, M. 1960. The food quest and the time factor in Aboriginal economic life. In: Mountford CP, editor. Records of the American-Australian scientific expedition to Arnhem Land. Melbourne: Melbourne University Press. pp. 145–194.

Altman, J.C., 1984. Hunter-gatherer subsistence production in Arnhem Land: the original affluence hypothesis re-examined. The Australian Journal of Anthropology 14(3):179-190.

1) **Production (*Ea*):** Original data in McArthur (1960). We used the values from Table 2 in Kaplan (2000) and the assumptions contained therein. To calculate kcal/person/hour, we relied on the time allocation estimates described below.

2) **Time Allocation (*Tf*):** Altman (1984) provides a secondary description of time allocation among Arnhem Land foragers. On p. 185, he provides a calculation of time spent foraging by Fish Creek and Hemple Bay foragers, originally reported in McCarthy and MacArthur (1960) in tables on pages 127-128. We accept these calculations and note that they include tool manufacture and maintenance. Time allocation differs between Fish Creek and Hemple Bay. To arrive at a summary value, we averaged the values presented for men and women.

Achuara

Hames, R.B. 1989. Time, efficiency, and fitness in the Amazonian protein quest. Research in Economic Anthropology 11:43–85.

Ross, E., 1976. The Achuara Jivaro: Cultural Adaptation in the Upper Amazon. PhD dissertation, Columbia University.

1. **Time allocation (*Tf*):** Data originally from Ross (1976: p. 199) are reported in Hames (1989) in Tables 1-3. From Table 1 in Hames (1989), we summed time spent on the categories hunting (*H*), fishing (F_i), gardening (G_r), gathering (G_t). Time allocation to food processing (F_p) is unavailable.

Bari

Beckerman, S., 1983. Carpe diem: an optimal foraging approach to Bari fishing and hunting. In Adaptive Responses of Native Amazonians. pp. 269-299. Academic Press.

1) **Production (*Ea*):** Data for returns by adult men for ‘traditional hunting’, ‘traditional fishing’, ‘hook and line fishing,’ and ‘shotgun hunting’ presented in Tables 9.1-9.4 correspond to different field seasons in 1970-1971. To convert from kilograms, we used

values of 1500 and 1200 kcal/kg for mammal and fish meat, respectively. We summed foraging returns to a total value of kcals, divided by the number of days foraged and the number of foragers. We estimated the number of foragers as four, based on the notes in the text (p. 282).

2) **Time allocation (*Tf*):** Beckerman (1983) wrote that 'the Bari have a remarkably standard behavioral pattern which sets 125 $\pm$ 20 hours as the average amount of time a man should devote to all types of foraging during a month.' Dividing 125 by 30 days, we arrived at an estimate of 4.2 hrs per day devoted to foraging. It is unclear whether this is synonymous with time devoted to subsistence, but we suspect it should be considered a slight underestimate.

Notes: The Bari were not included in main analyses for this paper because they are a horticulturalist society, but to our knowledge no production estimates are available. As a result the Bari could not be included in comparisons between foragers and horticulturalists.

Batek

Data were taken from the raw data that is utilized in the following sources:

Endicott, K.M. and Endicott, K.L., 2008. The Headman was a Woman: The Gender Egalitarian Batek of Malaysia. Waveland Press Inc.

Venkataraman, V.V., Kraft, T.S., Dominy, N.J. and Endicott, K.M., 2017. Hunter-gatherer residential mobility and the marginal value of rainforest patches. Proceedings of the National academy of Sciences USA 114(12):3097-3102.

Kraft, T.S., Venkataraman, V.V., Tacey, I., Dominy, N.J. and Endicott, K.M., 2019. Foraging performance, prosociality, and kin presence do not predict lifetime reproductive success in Batek hunter-gatherers. Human Nature 30(1):71-97.

1) **Production (*Ea*):** Total kcals of wild foods produced were divided by the total number of person-days in camp to generate values in kcals/day for each sex. This includes resting days or days spent engaging in non-subsistence activities like childcare or collecting housing materials. Days that were spent engaging in activities that otherwise detracted from an individual's ability to produce wild foods (collecting rattan, trading with Malay traders, brief agricultural projects) were excluded from the denominator (person-days) because we seek a measure of per capita daily production only on days that are occupied with activities that contribute to production as defined in the present study.

2) **Time Allocation (*Tf*):** To calculate average time spent in subsistence per day, it was necessary to deal with days when foraging for wild foods occurred, but for which no time spent foraging was measured. In these cases, bouts of gathering, hunting, and fishing were assigned the average per-bout times based on measured foraging trips. Then all foraging time across the whole sample was summed and divided by the total number of

person-days. As for the production estimates above, days that were spent engaging in activities that otherwise detracted from an individuals' ability to produce wild foods (collecting rattan, trading with Malay traders, brief agricultural projects) were excluded from the denominator (person-days). This estimate does not include processing time.

3) **Return rate (*Rg*):** Return rates were calculated by dividing *Ea* by *Tf*. Resulting values were similar to those calculated by summing the total caloric returns from timed foraging bouts by the sum of all times spent foraging when only including timed foraging bouts (~50% of the total dataset; resulting values: Rg_{male} = 666 kcal/hr, Rg_{female} = 771 kcal/hr).

Notes: Values are based on records of daily foraging bouts by adult men and women in which leaving and returning times to camp were recorded, in addition to the weight of foods acquired. Nutritional values were taken from standardized references. See SI of Venkataraman et al (2017) for nutritional calculations. Processing costs are not known. One specific food (a tuber, *gadong*) was removed from the dataset prior to all calculations because it generates extremely high return rates in the absence of the ability to include processing costs. These tubers are extremely large but are also toxic and often require >8 hours of processing. Thus, if we included this species without accounting for processing times, it would inappropriately inflate our return estimates. In all, *gadong* was only acquired during 15 foraging bouts.

Bororo, Kanela, Mekranoti, Xavante

Werner, D., Flowers, N.M., Ritter, M.L. and Gross, D.R., 1979. Subsistence productivity and hunting effort in native South America. Human Ecology 7(4):303-315.

1) **Production (*Ea*):** Production values (kcal/person/day and kcal/person/hour) for adults only were calculated based on values presented in Tables 1-4. For kcal/person/day, we summed the garden production value from table 4 (e.g., the value of 10392 for the Mekranoti) with the hunting and fishing values from Tables 2 and 3, respectively. We calculated kcal/person/day indirectly for tables 2 and 3 by multiplying rows 3 (average yield per hour in kg dressed meat) and 4 (number of hours spent hunting per day per adult) to arrive at a value for kilograms acquired per adult per day. We then multiplied by an edibility factor of 0.75, and finally converted to kcal using 1500 kcal/kg mammal of meat. A similar procedure was followed for fishing, except in this case the caloric content was estimated at 1200 kcal/kg for fish meat. To calculate kcal/person/hour for gardening, we divided total daily production (again, 10392 kcal/person/day for the Mekranoti) by time spent per person per day (Table 1, row 4) in gardening. For hunting and fishing, the kcal/person/day estimates were converted to hours using the fourth rows (hours spent per day) of Tables 2 and 3, respectively. The calculations were identical for the Mekranoti, Xavante, Bororo, and Kanela.

2) **Time Allocation (*Tf*):** Data derived from time allocation data in Table 5. Values were summed from hunting, fishing, gathering, gardening, and a portion of the time classified under 'nonsubsistence work' because we wished to account for food preparation. We did not include the following: tool manufacture, firewood collection, child care, housekeeping, and business transactions within the community (the other activities

included in the ‘nonsubsistence’ category). Thus, we applied a corrective factor of 1/6 to the values in this row.

Efe

Bailey, R.C., 1991. The Behavioral Ecology of Efe Pygmy Men in the Ituri Forest, Zaire (No. 86). University of Michigan Museum.

Bailey, Robert C.; Peacock, Nadine 1989. Time allocation of Efe Pygmy men and women of the Ituri Forest, Zaire. Cross-Cultural Studies in Time Allocation.

1) **Production (*Ea*):** Data derived from Table 5.5 (p. 98), which presents summary data on three different kinds of hunts: ‘monkey,’ ‘ambush’, and ‘group.’ We used the average value from the different kinds of hunts (0.288 kg/man-hr in column 4). This value had already been converted to edible weight, so we multiplied by 1500 kcal/kg to arrive at kilocalories per person per hour.

2) **Time allocation (*Tf*):** Data are from Human Relations Area File time allocation series file (Bailey & Peacock 1989), Table 5.1. We used data coded as ‘food production’ and ‘food preparation’ and converted to hours for both adult men and women. Note that the low value for women (2.7 hrs) derives from the fact that they performed much commercial work.

Etolo, Gadio Enga, Rofaifo

Dwyer, P.D., 1983. Etolo hunting performance and energetics. *Human Ecology* 11(2):145-174.

1) **Production (*Ea*):** Original data were from 3000 hrs of Etolo adult men hunting small mammals (monotremes, marsupials, rodents, and fruit bats) in the highlands of Papua New Guinea. Data were collected when the ethnographer camped in the forest with hunters and kept daily records of time spent hunting and foraging returns. Production here refers only to hunting, though the Etolo also produce calories via horticulture, some gathering, and pig husbandry. Dwyer writes that the studied group (Bobole village, ~109 people) was virtually independent of trade with outsiders (other than some sago trading) and that ‘wildlife of many kinds were a significant and regular component of their diet (p. 146). The hunting data were collected during a season when “the demands upon time for gardening and sago processing were least.” (p. 147). Production (edible kg/person/hr) derive from table 8 for the Etolo. In this case, the value calculated by Dwyer was 0.2126 edible kg per person per hour, but this number does not include returns from fruit bats (*Dobsonia moluccensis*). Dwyer dismisses these data as owing to ‘fortuitous hauls’ from a cave where many fruit bats had gathered to give birth and nurse young. We opted to instead use the marginally different production value that includes fruit bats presented in table 7 (0.2209 kg/person/hour). Dwyer’s data derive from a mix of data collection procedures. He distinguishes between Type I and Type II data, which roughly correspond to periods of living in the forest versus living in the village, respectively. The reader is

referred to the leftmost column in table 7 (‘data set’) and p. 147 in the manuscript for details about the strength and weaknesses of Type I vs. Type II data.

Dwyer had conducted an earlier study with the Rofaifo, a horticulturalist and pig-husbandry group from the central highlands of Papua New Guinea. He includes the production value from hunting for the Rofaifo in this paper (table 8, 0.0236 kg/person/hour). We include these values but note, as Dwyer does, that they are rather low. Dwyer suspects this is due to change in the culture since contact, the high elevation, and poor hunting grounds.

Dwyer (1983) also includes data from the Gadio Enga, which is described below.

The sample sizes for hunting are quite different between these three groups (Gadio Enga: 65 animal captures, Etolo: 592 animal captures, Rofaifo:154 animal captures). We used the 1500 kcal/kg conversion for all the data from this paper.

Gadio Enga

Dornstreich, M., 1973. An Ecological Study of Gadio Enga Subsistence. Ph. D. dissertation. Columbia University.

Dwyer, P.D., 1983. Etolo hunting performance and energetics. Human Ecology 11(2):145-174.

1) **Production (*Ea*):** Data compiled from Tables VII.12-VII.20 (p. 431-440) of Dornstreich (1973). Data were collected in Kombotowa Gadio, one of several hamlets the author worked among, between June 3 and September 20, 1968. This community varied in demographic composition, from 4-52 people. We added total calories from each of the major components of food acquisition: ‘gardening’, ‘sago-making’, ‘silviculture’, ‘gathering’, ‘animal husbandry’, ‘trapping’, ‘fishing’, ‘collecting’, and ‘hunting.’ In table VII.21 it is noted that of total calories produced, 42.4% derive from gardening and 47.4% from sago-making. The population is thus heavily reliant on vegetable matter for subsistence. To calculate production in terms of kilocalories/producer/day, we summed the calories produced from these categories, then divided by the number of days of the study (109), and finally divided by the number of producers (18), which were derived from the daily demographics of Kombotowa presented in table VI.15. We considered producers to include individuals above the age of nine (see table VI.12 for information on who participates in food-getting activities). We averaged the number of producers across the study period.

   Dwyer (1983) also reports production data from the Gadio Enga (0.8849 edible kg/person/hour) based on Dornstreich (1973).

Gunwinngu

Altman, J.C., 1984. Hunter-gatherer subsistence production in Arnhem Land: the original affluence hypothesis re-examined. The Australian Journal of Anthropology 14(3):179-190.

1) **Production (*Ea*)/Time allocation (*Tf)*/Return rate (*Rg*):** Data derived from Table 5 for both men and women (30 individuals total) foraging during 296 days during 1979 and 1980 on 'bush foodstuff.' Original data presented on kilocalories produced, time spent, and hourly caloric returns.

G/wi

Silberbauer, G.B., 1981. Hunter and habitat in the central Kalahari Desert. Cambridge University Press, Cambridge.

Tanaka, J., 1980. The San, hunter-gatherers of the Kalahari: A study in ecological anthropology. Tokyo University Press, Tokyo.

Kaplan, H., Hill, K., Lancaster, J. and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

1) **Production (*Ea*):** Data derived from Table 2 in Kaplan (2000), which presents a detailed calculation of total daily production for men and women by combining estimates from Silberbauer and Tanaka.
2) **Return Rate (*Rg*):** To estimate kcal/person/hour, we divided these daily caloric estimates by the hours spent foraging out of camp estimated for men and women in Tanaka (p. 76, 1981) given that the same band was studied by both ethnographers.
3) **Time Allocation (*Tf*):** See above.

Hadza

Kaplan, H., Hill, K., Lancaster, J. and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

Blurton Jones, N.G., Hawkes, K., O'Connell, J. 1997. Why do Hadza children forage? In: Segal N.L., Weisfeld G.E., Weisfield C.C., eds. Uniting psychology and biology: Integrative perspectives on human development. New York: American Psychological Association. p 297–331.

Hawkes, K., O'Connell, J.F., Blurton Jones, N.G. 1989. Hardworking Hadza grandmothers. In: Standen V, Foley, R.A., eds. Comparative socioecology of humans and other mammals. London: Basil Blackwell. p 341–366.

Hawkes, K., O'Connell, F., Blurton Jones, N.G. 1997. Hadza women's time allocation, offspring provisioning, and the evolution of long postmenopausal life spans. Current Anthropology 38:551–577.

1) **Production (*Ea*):** Original data in from Blurton Jones et al. (1997), Hawkes et al. (1989), and Hawkes et al. (1997). We used the values from Kaplan (2000), Table 2, and the assumptions contained therein.

2) **Time allocation (*Tf*):** Hawkes et al. (1997) present estimates of time allocation in hrs/week in their Table 1. We used the categories "adult men" and "childbearing-aged women" and added time spent on "food acquisition away" and "food processing at home" to derive estimates of time allocation devoted to subsistence.

Notes: We calculated return rates by dividing estimates of production per day from Kaplan et al. (2000) by the time allocation estimates from Hawkes et al. (1997).

Hadza2

Marlowe, F. 2010. The Hadza: hunter-gatherers of Tanzania. Univ of California Press.

1) **Production (*Ea*):** Values of kcals produced per day are reported in Table 5.5. We use values for females and males for the category of "Adults (18 and up)".

2) **Time allocation (*Tf*):** On page 120, Marlowe (2010) reports that the average time spent foraging per day is 4.1 hours for women and 6.1 hours for men (ages 18+). Estimates of time spent on food processing and tool manufacture are reported in Table 4.6 as % of all time. Assuming that all time includes 12 hours daily, we multiplied percentage estimates by 12 to calculate number of hours spent per day on these activities. We used values for adults, which in this table were reported for men and women greater than or equal to 18 years old. We added time costs for 1 of the 3 columns presented: "% Time All Processing Food" (the column "% Time Pounding with Hammerstone" appears to be subsumed within the All Processing Food column). Note that although Table 4.6 contains a footnote which suggests that making/repairing bows and arrows is already included in food processing, the numbers in the table demonstrate that the column "% Time Making Bows and Arrows" is not already included in "% Time All Processing Food" (because the former is sometimes higher than the latter). "% Time Making Bows and Arrows" could be used to calculate time spent on manufacture, but we have not included it here for consistency with other studies.

3) **Return rate (*Rg*):** Values of kcals per hour are reported directly in Table 5.5. For females and males in the category "Adults (18 and up)", values for men and women are 597 and 795 kcal/hr, respectively. Because these values do not account for processing costs, we instead opt to divide *Ea* and *Tf* described above to generate final estimates, but note the general agreement with the return rates in Table 5.5.

Hiwi

Hurtado, A.M. and Hill, K.R., 1987. Early dry season subsistence ecology of Cuiva (Hiwi) foragers of Venezuela. Human Ecology 15(2):163-187.

1) **Time Allocation (*Tf*):** Time values derive from pages 175 and 179. These include estimates of male and female time spent foraging out of camp (p. 175, also in Table 2 on p. 178), added to time spent processing food (p. 179). Time spent eating is also available on p. 179. Note that for consistency with male production value (see #2 below), which included only production for non-domesticated animals, we used the male time spent foraging value from Table 2 for non-domesticated animals. Values for making tools and firewood collection are available but not included.

2) **Production (*Ea*):** Amounts produced by men and women derive from Table 2 on page 178. We use values for men and women (ages 20-60) listed for "Mean calories produced per day." For men, we use values in the column "Animals of domestic origin excluded" to put the focus on wild foods.

Hiwi2

Hurtado, A. M., and Hill, K. R. 1990. Seasonality in a foraging society: variation in diet, work effort, fertility, and sexual division of labor among the Hiwi of Venezuela. Journal of Anthropological Research 46(3):293-346.

Kaplan, H., Hill, K., Lancaster, J., and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

1) **Time Allocation (*Tf*):** Time values derive from Table 8 and are reported by season for each sex. For men, we averaged across seasons to produce an average time spent foraging. For women, we first averaged across the non-nursing/post-reproductive and nursing/pregnant categories, and then averaged across seasons to create an all-year mean for all women. Because these values do not include processing, we added values from Hill & Hurtado (1987) for these activities to the per-day time costs of each sex (see *Hiwi* section for numbers).

2) **Production (*Ea*):** Amounts produced by men and women derive from Table 6 and are disaggregated by season. For men, we averaged across seasons to generate an average production. For women, we first averaged across the non-nursing/post-reproductive and nursing/pregnant categories, and then averaged across seasons to create an all-year mean for all women.

Notes: Various values for Hiwi return rates have been presented in publications over the years. In Hill and Hurtado (1990), the authors report (on page 358) aggregate foraging return rates for men and women across the year to be 2593 and 848 calories per hour, respectively. These numbers were later adopted by Bowles (2011; *PNAS*). However, it is unclear how these numbers correspond to the values presented in tables 6 and 8. We chose to use the data from the tables directly because results are presented at a greater level of detail, and the disaggregation of production and time makes it possible to incorporate processing and eating costs from Hurtado and Hill (1987).

Additionally, we note that Kaplan et al. (2000) present daily production values (kcal/day) for Hiwi men and women of 3489 and 916 kcal/day, respectively. In the footnote of their paper, the authors write, “Hiwi: Data come from a sample of days between 1985 and 1988 when KH [Kim Hill] and MH (Magdalena Hurtado) resided with the Hiwi and weighed all food produced by a sample of camp members. Details of calculations of edible portion and food value are published in Hurtado and Hill[12, 148].” It is difficult to understand the relationship between these values and those reported above, but they are similar.

Inujjuamiut

Smith, E.A., 1991. Inujjuamiut foraging strategies: Evolutionary ecology of an Arctic hunting economy. Transaction Publishers.

1) **Production (*Ea*) and foraging efficiency (*F*):** Data on men’s hourly production derived from Table 5.11, page 187. Foraging efficiency calculated by dividing production by energy expenditure.

Inuit

Wenzel, G.W., Dolan, J. and Brown, C., 2016. Wild Resources, Harvest Data and Food Security in Nunavut’s Qikiqtaaluk Region: A Diachronic Analysis. Arctic 69(2):147-159.

1) **Production (*Ea*):** Table S1 contains hunting yields from 14 communities in Nunavut, Canada during 1980-1983. It should be emphasized that these data reflect a mixed subsistence and market economy, with heavy reliance on snowmobiles and guns during foraging. Although data are presented that span 1980 until 2001, we only use data from 1980-1983 because harvest yields decreased across time and these earlier years likely represent a more intact environment and traditional hunting practices. Moreover, the yields in and after 1984 reflect the collapse of the sealskin market. A fuller discussion may be found on p. 152 of Wenzel et al. (2016). However, it should be noted that hunting was performed for consumption in addition to market sale. Data in the paper are presented as raw total biomass as well as at the level of individual consumption in terms of kg edible meat per person per day. However, this applies across the whole community. Population sizes are reported for each community for each year. However, we could only recover the number of hunters for the year 1984 (Table 4). Hunters were almost exclusively adult men. We observe that population size did not change drastically in any village between 1980-1983 and 1984, so we assume the proportion of hunters (typically males above the age of 16) was the same in the years immediately preceding 1984. The raw values in the Table S1 were averaged across years within communities, then averaged across communities to arrive at a final value of kg edible weight per hunter per day that reflects the hunting behavior of the broader Quikiqtaaluk region. Since data were

already presented in edible form (only meat weight; see p. 150), we used a conversion of 1500 kcal/kg of edible meat.

Kaul and Lufa

Norgan, N.G., Ferro-Luzzi, A. and Durnin, J.V.G.A., 1974. The energy and nutrient intake and the energy expenditure of 204 New Guinean adults. Philosophical Transactions of the Royal Society of London. B, Biological Sciences 268(893):309-348.

1) **Production (*Ea*):** Data were from adult males and females of two populations in New Guinea: Kaul (coastal village) and Lufa (highland village). The authors directly measured the caloric value of the foods collected but the data were not presented. Direct production was loosely estimated at the family level (8000 kcal/family/day for a family of 2 adults and 3 children), but we excluded these values because they do not appear to be directly based on data.

2) **Time allocation (*Tf*):** The authors considered a variety of foraging and non-foraging tasks. We considered subsistence-related activities to includes walking, gardening, fence making, cash cropping, hunting and gathering, and food preparation. We used data from Table 10 to estimate the time spent per day on subsistence.

3) **Energy expenditure (*Ef*):** The authors measured energy expenditure for activities via indirect calorimetry. We estimated daily energy expenditure due to subsistence by combining data from Table 8 (mean daily energy expenditure) and Table 10 (percentage of time spent in various activities, and their contribution to total mean daily energy expenditure). Percentage of time spent in various activities per day (determined via scan sampling) was converted to absolute minutes per day. To acquire kcal/day spent on each task, we multiplied the proportion of daily energy expenditure by the mean daily expenditure. These values were multiplied to arrive at the units of kcal/minute, the rate of energy expenditure per activity. We then subtracted the cost of sitting from each activity to acquire a net rate. These values were multiplied by the minutes spent per day in each task to arrive at the unit of net kcal/day. Finally, these values were summed across the activities that contribute to subsistence (listed above) to arrive at a final value of total kcal/day.

!Kung

Hawkes, K, and O'Connell, J.F. 1981. Affluent hunters? Some comments in light of the Alyawara case. American Anthropologist 83(3):622-626.

Hawkes, K., Hill, K., and O’Connell, J. F. 1982. Why hunters gather: optimal foraging and the Ache of eastern Paraguay. American Ethnologist 9(2):379-398.

Lee, R. B. (1968). What hunters do for a living, or, how to make out on scarce resources. In R. B. Lee & I. DeVore (Eds.), Man the hunter (pp. 30–48). Chicago: Aldine.

Lee, R. B. 1979. The !Kung San: men, women and work in a foraging society. Cambridge University Press, Cambridge.

Kaplan, H., Hill, K., Lancaster, J., and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

The !Kung of Botswana have often served, for better or worse, as an example of the canonical hunter-gatherer group. And there is perhaps no more prominent source about the !Kung than the information derived from anthropologist Richard Lee's fieldwork in the 1960s, summarized in Lee (1979). Our calculations for this important source warrant special attention.

Lee (1979) observed a group averaging 25 adult residents at the Dobe water hole for four weeks, from July 6 to August 2, 1964. The !Kung had a diverse diet from hunting and gathering during the study period. Men hunted by walking on foot or using snares; they used dogs in one-third of successful hunts. Women focused on gathering, primarily of mongongo nuts which were the main food crop. There were both residents and visitors at the camp. Despite Lee's observations that behavior differed between residents and visitors, we follow Lee in making estimates that include the foraging behavior of both residents and visitors.

Numerous investigators have used foraging data from this source, but calculations have conflicted due to ambiguity stemming from Lee's original classification of work into three categories: 1) subsistence work (hunting, gathering, drawing water, subsistence-related travel and load-carrying), 2) maintenance work (of the tools of subsistence and other necessities such as clothing and housing), and 3) house work (tending the fire, serving food, cleaning the fireplace, washing utensils, preparing bedding, collecting firewood, and food preparation/processing and cooking). The first category occurs out of camp, the second can occur in or out of camp, and the third occurs largely in camp, though on-site butchery was included under subsistence. The inclusion of food processing as housework rather than subsistence led to an artificially low estimate of the time the !Kung spent working per week (roughly 15 hrs; Lee 1968). From its original inclusion in the *Man the Hunter* volume and prominent popularization there by Sahlins, this incorrect value has permeated the professional and popular literature despite the correction by Hawkes and O'Connell (1981) and subsequently Lee (1979) himself. In reality, the !Kung spent more than 40 hours per week engaged in the food quest (Lee 1979, Table 9.3).

There have also been discrepancies in the ways that production has been calculated. This stems from ambiguous reporting of numbers in the text and differences in how person-days were treated in calculations. It is important to emphasize that Lee did not engage in systematic scan sampling. Instead, days were classified as work days or non-work days based on the primary activity performed. A work day was defined as '*a day in which one person collected food for the camp or a day in which one man went hunting.*' (Table 9.1). It was stated that the number of hours in a work day was 8 hrs for men and 6 hrs for women (Lee 1979:278). However, in *Man the Hunter* it was stated that foraging trips average six hours (Lee 1968:37). The meaning of these numbers is somewhat uncertain, but it is important to note that these estimations propagate through the calculations that follow.

Lee (1979) presents unadjusted and adjusted data. On two occasions during the month-long study period, Lee drove camp members to mongongo trees that were inaccessible on foot. The adjusted data add several person-days of work effort to account for the fact that individuals carried more food back in the truck than they would have carried on foot. We use the adjusted data here. We present new estimates based on a novel calculation from the data presented in Chapter 9 of Lee (1979). Our results differ slightly from previously published estimates.

1) **Production (*Ea*)**: We used the camp-level production values over the entire study period, presented on p. 262 of Lee (1979) as a starting point. Women gathered a total of 1,400,000 kcal, while men hunted and gathered a total of 860,000 kcal. We divided these values by the number of unadjusted person-days presented near the bottom of Table 9.3, including both residents and visitors, and using the adjusted person-days for the gathering column. For men, the formula we used to compute kcal per person per day was: 860000/(83+21.5+13+123+28) = 3203. And for women: 1140000/(87.5+37+186+1) = 3660. Our values are similar to those calculated for the !Kung by Kaplan et al (2000), however we used the adjusted values whereas they used the unadjusted values.

2) **Time allocation (*Tf*):** We used Table 9.12 to estimate time allocation to subsistence-related tasks. The values for 'Subsistence work' were generated (by Lee) by multiplying the last column ('Adjusted work week') of Table 9.3 by eight and six, for men and women, respectively (the workday hours). For 'Housework,' the values derive from the discussion on page 278, which states that men perform housework on average for 2.2 hrs per day and women for 3.2 hrs per day. While housework is a category including many components, it was not possible to disentangle them here. As such, the values should be considered as slight overestimates. These values were multiplied by seven (days in a week) to arrive at the values in Table 9.12 under 'Housework.' In accordance with the goals of the present study, our final calculation summed values from the columns 'Subsistence work' and 'Housework' but they did not include 'Tool making and fixing.' We then divided these weekly totals by seven to estimate hours per day spent in subsistence activity. For women: (12.6 + 22.4)/7 = 5 hrs. For men: (21.6 + 15.4)/7 = 5.3 hrs. Note that our estimate differs substantially from that of Hawkes et al. (1982), who gave an estimate of male time cost as "about 8 hr hunting plus 1.12 hr processing the kill (Lee 1979:278), or about 9.12 hr". We were unable to find the source of the quantity 1.12 hrs on p 278 or elsewhere in Lee (1979). Moreover, there is ambiguity in the 8 hr estimate (see above). We suspect that Table 9.3 better accounts for variability in work patterns, in turn providing the lower estimate of time worked per day that we favor here.

3) **Return rate (*Rg*):** We divided *Ea* by *Tf* as described above for men and women. Our estimates are 731.9 for women and 604.3 for men. The hourly return rate for !Kung men calculated by Hawkes et al (1982) is 793 kcal per hour, which is based on the production and time allocation values presented above for their re-calculation (7230 kcal/9.1 hrs=793 kcal per hour). Hawkes et al. (1982) gives an hourly return rate for !Kung women of 670

kcal per forager hour, citing a previous recalculation of Lee's (1979) data from Hawkes and O'Connell (1981) that was performed to include processing time. The following text from Hawkes and O'Connell (1981) describe how calculations were performed: "Lee (1979:187) estimates the total return from an average nut-collecting trip at 12 kg, or about 11,400 kcal. Foraging trips average six hours (Lee 1968:37), which means an average return rate of 1900 kcal per forager hour, equal to the very best figures for the Alyawara. However, if we add the time spent roasting and cracking the nuts (one and ten hours, respectively [Lee 1979:198]), the rate falls to 670 kcal per forager hour, well down in the Alyawara range." Our results are very similar despite being calculated in a different fashion.

Machiguenga

Keegan, W. F. 1986. The optimal foraging analysis of horticultural production. American Anthropologist 88(1):92-107.

Johnson, A., 1983. Machiguenga gardens. In Adaptive responses of Native Amazonians. pp. 29-63. Academic Press.

1) **Production (*Ea*):** Table 2 of Keegan (1986) reports aggregate production and time spent on subsistence. Values are reported for different "patch types" (forest, river, gardens). To calculate an overall return rate, we summed the values of harvested production (kcal/yr) and divided these numbers by the summed total of time/patch/yr. We also added an estimate of travel time to gardens for the latter (denominator) from Table 2.10 in Johnson (1983).

Montgomery, E. and Johnson, A., 1977. Machiguenga energy expenditure. Ecology of Food and Nutrition 6(2):97-105.

1) **Energy expenditure (*Ef*) and time allocation (*Tf*)**: The data include time allocation and energy expenditure measurements for a wide range of activities using indirect calorimetry, enabling estimates of energy expenditure. Energy expenditure in kcal/day were calculated based primarily on Table 5, which provides information on the rate of energy use during men's and women's activities. Food acquisition-related activities include food preparation and labor for wild foods and garden. Manufacture and eating costs are not included for either energy and time, but both could be added using reported values (but note that manufacture costs here would be an overestimate because this category includes some types of manufacture not related to subsistence (e.g. toy making)). Instantaneous net costs for individual activities were calculating by first subtracting sitting costs (derived from Tables 3.1 and 3.5 on pages 31 and 39, respectively, for the 20-39 year old age category in Durnin, J.V.G.A., & Passmore, R., 1967. *Energy, Work, and Leisure*. Heinemann Educational Books, Ltd., London.) to arrive at a rate in kcal/minute. For instance, for 'wild foods' we subtracted the cost of sitting (1.4 kcal/min), from 5.3 kcal/min. Time spent in various activities was calculated by dividing the daily energy expenditure in Table 5 by the rate. For example, for wild

foods, we divided 645 by 5.3 to arrive at a value of 121.7 minutes. We then multiplied this time value by the instantaneous rate (5.3 kcal/min, as noted above) to arrive at a net value for each activity. Values were then summed for food acquisition related activities. This procedure was performed for both men and women.

Machiguenga2

Gurven, M., and Kaplan, H. 2006. Determinants of time allocation across the lifespan. Human Nature 17(1):1-49.

1) **Time allocation (*Tf*):** Table 2 presents time allocation estimates that include the following categories: hunting, collecting, fishing, gardening, and food processing. Note that these represent independent time allocation estimates from those presented by Keegan (1986) and Montgomery and Johnson (1977). The datasets were collected roughly 16 years apart.

Maku

Milton, K., 1984. Protein and carbohydrate resources of the Maku Indians of northwestern Amazonia. American Anthropologist 86:7-27.

1) **Production (*Ea*):** Production values for adult men and women were taken from pages 14-16. The data for men derive from 40 hunting-fishing expeditions, and for women the data derive from the daily cultivation of manioc. Men do not appear to participate in manioc cultivation. Men are reported to hunt/fish/gather almost every day, and during hunting/fishing they harvest resources at an average rate of 2155 grams per person per day. Assuming 75% edibility and 1500 kcal/kg of vertebrate, meat, this translates to 2424.4 kcal per person per day. Women are reported to harvest manioc at a rate of 18.6 kg per person per day on four out every five days. On page 17, Milton reports that this amount of manioc is sufficient to produce 2 pieces of cassava bread, each averaging 3 kg when cooked. After nutritional conversion, this is reported to amount to 9,600 kcal per piece of cassava bread, and thus can be multiplied by two to generate a total value of 19,200 kcal/harvest-day. We thus corrected this daily acquisition rate with a correction factor of 4/5 (amount of days getting manioc) to get total daily production for women.

2) **Time Allocation (*Tf*):** Data on time allocation related to subsistence activity reflects hunting and gathering and fishing, and include eating time (eating could not be disaggregated to standardize estimates to other studies). The data appear to reflect time both in and out of camp. Subsistence activities include manioc food processing and other (unspecified) 'subsistence-related activities' for women, and hunting and other (unspecified) 'subsistence-related activities' for men. We added the mean times devoted to these tasks to arrive at final values of 8 hrs and 7.5 hrs for men and women, respectively. Note that these values should be considered upper bounds for time devoted to subsistence-related activities, as they include eating time and likely other tasks such as

firewood and water collection that we have tried to exclude in the rest of our ethnographic sample.

Mamainde

Hames RB. 1989. Time, efficiency, and fitness in the Amazonian protein quest. Research in Economic Anthropology 11:43–85.

Aspelin, L., 1975. External Articulation and Domestic Production: The artifact trade of the Mamainde of the Northwestern Mato Grosso, Brazil. PhD dissertation, Cornell University.

1. **Time allocation (*Tf*):** Time allocation from the original source of Aspelin (1975: p. 313, 315) are reported in Hames (1989) in Tables 1-3. From Table 1 in Hames (1989), we summed time spent on the categories hunting (H), fishing (F_i), gardening (G_r), gathering (G_t), and food processing (F_p).

Mbuti

Harako, R., 1981. The cultural ecology of hunting behavior among Mbuti Pygmies in the Ituri Forest, Zaire. Omnivorous Primates. Columbia University Press, New York, pp.499-555.

1) **Production (*Ea*):** Harako presents data on production during time spent with two bands (A and B) of Mbuti in 1972-1973. Band A primarily hunted by archery and net hunting, and band B hunted by spears and archery. Archery and spear hunting was almost exclusively male activities while net hunting is a communal activity. Production from band A derived from Tables 13.4-13.5. Production from band B derived from Tables 13.7 and 13.11. Harako uses rough estimates for body weights, but since species data are presented we recalculated production values at a species level using published body mass estimates. Values for production presented by Harako in this paper and cited by numerous others are over-estimates because they only include foraging days. We recalculated these values by including the entire period of study in our calculations. Producers (hunters) in band B were estimated as the average group size (39) multiplied by the proportion of men and youths who regularly hunt (0.4). For band A, group sizes for net hunting and archery were presented separately. Edibility was estimated for vertebrate meat at 75% and converted to calories using the conversion 1500 kcal/kg.

2) **Time Allocation (*Tf*):** Harako presents data on time spent foraging. These reflect only out-of-camp activities. The values tend to be rather high, as spear hunting and net hunting appear to require long days out of camp. While these values do not include other subsistence activities, we should be suspect that their extreme length reflects the norm for Mbuti subsistence.

Nukak

Politis, G., 2016. Nukak: ethnoarchaeology of an Amazonian people. Routledge.

Kaplan, H., Hill, K., Lancaster, J. and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

1) **Production (*Ea*):** We used the calculations published by Kaplan et al. (2000) which assume the following: all food was produced by adults and men and women comprise equal proportions of the population. Published data on Ache resources similar to those acquired by the Nukak were used.

2) **Time Allocation (*Tf*):** Time out of camp during foraging was estimated using data in Tables 6.2 and 6.3, which present data on 27 foraging trips of groups of mixed demographic composition. We used the averages and did not distinguish between men and women, and only calculated a combined value for both sexes of 6.1 hrs/day. Food processing and eating time (at least within camp) are not included in this estimate. Politis (2016) does not present data on time allocation within camps so these values should be considered an underestimate.

Note: Gross return rate is calculated by dividing the production estimates from Kaplan et al. (2000) by the time spent foraging estimates from Politis (2016). This value is estimated for a combined male/female ("both") average, averaging the daily production and dividing by time. We do not calculate separate return rates by sex because time allocation was not reported for the sexes separately.

Nunoa

Thomas, R.B. 1973. Human Adaptation to a High Andean Energy Flow System, Occasional Papers in Anthropology No. 7, The Pennsylvania State University Department of Anthropology, University Park, Pennsylvania.

1) **Production (*Ea*):** All production values are given at the level of a family. A complete summary of all production values is presented in Table 38 on p. 133 and appears to agree with other figures presented throughout the paper. Yearly values are divided by (365*2) to convert production to kcal/person/day (as stated in the paper, two adult producers per household). As suggested to be typical of a single Nunoa family, production is estimated based on cultivation of 500 m^2 of potatoes, 250 m^2 of quinoa, 250 m^2 of canihua, and 100 herd animals.

   Values for agricultural production are presented in several places, most notably Tables 29 and 38, pages 120 and 132, respectively. These values are in agreement, and p. 132 suggests that a typical Nunoa rural family cultivates 500 m^2 of potatoes and a similar plot of canihua and quinoa, to produce a total of (198,000 + 307,800 = 505,800 kcals) per year. To this number, we also add the amount of food energy derived from assisting other families, as described on page 132 (89,100 additional kcal). The authors show a summary of all the values in Table 38 on p. 133.

Values for production for herding are also presented in multiple places, most notably Table 38, p. 114 and p. 132. The authors note that a typical family will own 100 animals (40 sheep, 40 alpaca, and 20 llama), of which 15% of each category are killed per year. Family level production is based on these amounts. Page 132 combines the number of animals killed with their caloric values (estimated empirically). To this number we then add 64,000 calories obtained from animals which have diet in the course of the year (and which are typically consumed) as stated on p. 132. The authors show a summary of all the values in Table 38 on p. 133.

2) **Time allocation (*Tf*):** Estimates of time expenditure on major subsistence activities by Nunoa men are given in Table 18 on p. 77. Although the table focuses on men, it presents values for women by denoting "(wife)" afterwards, and judging by calculations made elsewhere in the paper the time and energy costs in this table are sufficient to fund the production estimates described above at the family level. The paper also notes that adult males were used here "since it is this member of the family unit who can perform most activities more expediently" (p. 81).

   To calculate total time costs, we summed all the activity values in the "Time Expenditure" column of Table 18 (excluding subtotals), including those denoted with "(wife)". Because values are presented as min/500 m^2 for crops, we divided numbers for canihua and quinoa by 2 to account for the fact that production for a typical family is half that size for each of those crops (250 m^2). The total was then divided by 365 to provide estimates per day.

   An additional, but important, note is that the time allocation costs presented could be somewhat misleading. Throughout the paper the authors mention several times that many herding responsibilities fall upon younger individuals (juveniles, especially boys). As such, it is likely that adults expend substantially less time and energy on herding activities, which make up the vast majority of time costs. If we were to subtract daily herding from the time costs of Nunoa adults, this would reduce our values by (172,800/2/365/60 = 3.9) hours per day.

3) **Energetic expenditure (*Ef*):** Energy costs were also calculated from Table 18. First, all values in the column "Energy Expenditure Rate (kcal/min)" had values of the energetic cost of sitting (from Table 17, page 75) subtracted from them to generate energy expenditures for different activities net the cost of resting. Net energy expenditure rate values were then multiplied by the time expenditure values to generate energy costs per year. These values were then divided by 365 to convert them to energy expenditure per day, and were summed across the different subsistence activities to calculate a total. Like time allocation estimates, we divided energy expenditure numbers for canihua and quinoa by 2 to account for the fact that production for a typical family is half that size for each of those crops (250 m^2) and because values are presented in table 18 as min/500 m^2 for crops.

Onge

Bose, S., 1964. Economy of the Onge of Little Andaman. Man in India 44(4):298-310.

Kaplan, H., Hill, K., Lancaster, J. and Hurtado, A.M., 2000. A theory of human life history evolution: Diet, intelligence, and longevity. Evolutionary Anthropology 9(4):156-185.

1) **Production (*Ea*):** We used the calculations published by Kaplan et al. (2000) which assume the following: all food is produced by adults and that there are equal proportions of men and women in the study population. Caloric values and edible portions were taken from Meehan (1982, *Shell Bed to Shell Midden*). It was assumed that males acquired all pigs, turtles, fish, and honey; and females acquired all crabs, bivalves, and plant products.

Piro

Gurven, M., & Kaplan, H. 2006. Determinants of time allocation across the lifespan. Human Nature 17(1):1-49.

1) **Time Allocation (*Tf*):** Time allocation estimates are from Table 2. Estimates include the following categories : hunting, collecting, fishing, gardening, and food processing.

Shipibo

Bergman, R. W. 1980. Amazon Economics: The Simplicity of Shipibo Indian Wealth. University Microfilms.

1) **Production (*Ea*):** Amounts produced by men and women derive from Tables 16-19. For agricultural production, caloric production was attributed to men and women separately based on their proportional labor inputs (this does not include labor input to processing). Because hunting and fishing were solely male activities, all calories from these activities were attributed to men. Based on the note below, it is critical that we first calculated total numbers of calories produced by each sex across the whole year, and then divided those calories by the number of *adult* individuals multiplied by 365 days to calculate rates of production per day.

2) **Time Allocation (*Tf*):** Time values derive from Table 19 (except for activity specific return rates, which come from Tables 16-18). Table 19 provides estimates broken down by sex, and separately for production and processing activities. Other aspects of "work" activities such as "Clothing, ceramics, housing and dooryard work" and "Cash endeavors" were not included in our calculations of subsistence time costs. Time spent eating was not available (and is also not available in later time allocation studies such as those of Behrens (1988)).

Notes:

All data on the Shipibo come from Chapter 8 of Bergman (1980), which is a study of the 107 inhabitants of Panaillo village in the central Ucayali area of Peru. This chapter provides a clear representation of subsistence economics but nonetheless our estimates required some reconstruction. An important note is that quantities are variously attributed to men, women, or "per capita," the latter of which appears to take into account all 107 members of the group including children. Because we are interested in adults, we focus on the 26 men and 25 women (see footnote *b* in Table 19).

As for all of the horticultural samples reported from the literature, we focus on a combined category of male/female production and time allocation because we seek to compare hunter-gatherer return rates to horticultural return rates, and male-only estimates are essentially for hunting and gathering only given the distribution of activities in this society.

Tatuyo

Dufour, D. L. 1981. Household variation in energy flow in a population of tropical forest horticulturalists. PhD Dissertation, SUNY Binghamton.

1) **Production:** Values of production are presented at the household level on a per year basis on page 311 of Dufour's (1981) thesis. Household production is the sum of total energy production (4,212,400 kcal/yr) and the production of ritual exchange food (82,700 kcal/yr) divided by 365 to yield a per day estimate, and then divided by 2 to account for the male and female producers in the household. These estimates were then divided by the average time spent on subsistence of males and females to yield a combined hourly return rate estimate.

Tsembega

Rappaport, R.A., 1984. Pigs for the ancestors: Ritual in the ecology of a New Guinea people. Yale University Press, New Haven and London.

1) **Production (*Ea*)**: The Tsembega cultivate numerous crops and keep pigs. Data were derived from Table 26 on p. 280-281. Total production values for 16 people and 13 pigs across 242 days are listed under 'total estimated caloric intake' with a value of 8412483.06. A large portion of the crops are fed to the pigs. The pigs are eventually eaten by the people. Therefore, we suppose that we can use the values of total production, rather than just the edible parts for humans that are listed in this table. Not all of the 16 individuals are producers, and we assume that 11 people are producers based on the demographic structure presented in table 9. We thus calculated kcal/person/day production as 8412483.06/242/11 = 3160.2 kcal/person/day.

Wayana

Hames, R.B. 1989. Time, efficiency, and fitness in the Amazonian protein quest. Research in Economic Anthropology 11:43–85.

Hurault, J., 1968. Les Indiens Wayana de la Gutane Francais: structure sociale et coutume familiale. Paris: ORSTROM.

1. **Time allocation (*Tf*):** Time allocation from an original source of Hurault (1968: p. 31-32) are reported in Hames (1989) in Tables 1, 2, and 3. From Table 1 in Hames (1989), we summed time spent on the categories hunting (H), fishing (F_i), gardening (G_r), gathering (G_t), and food processing (F_p).

Yanomamo

Lizot, J., 1977. Population, resources and warfare among the Yanomami. Man 12:497-517.

1) **Production (*Ea*)** : Data on adult production are presented separately for the Karohi and Kakashiwe groups in Table 8 of this paper. We used the "Total" caloric estimates in the column "Calories" to provide an estimate of the total calories produced in each community over the study period. To generate estimates of production per person-day, we then divided this value by the sum of the number of adult person-days observed in each camp. The number of adults in each camp are presented in Table 5 (21 males, 15 females in Karohi; 11 males, 10 females in Kakashiwe). Thus, for Karohi the number of person days was (21+15)*42, where 42 is equal to the number of observation days for the production estimate. Likewise for Kakashiwe, the number is (11+10)*28, where 28 is the number of observation days. The number of observation days in each camp are reported on p. 508.

2) **Time allocation (*Tf*):** Time allocation from studies by Lizot are reported in Hames (1989) in Table 1. From Table 1 in Hames (1989), we summed time spent on the categories hunting (H), fishing (F_i), gardening (G_r), gathering (G_t), and food processing (F_p) to be consistent with measurements of subsistence time allocation in other societies. For these estimates, Hames (1989) cites Lizot (1977) and Lizot (1978) pp. 89-90. Because these values are adult averages, they were combined directly with the adult average production/day above to calculate hourly return rates.

   Hames (1989) also presents Yanomamo time allocation for women and men separately in Tables 2 and 3, respectively. We include those estimates as well as values disaggregated by sex.

Yanomamo2

Hames, R.B. 1989. Time, efficiency, and fitness in the Amazonian protein quest. Research in Economic Anthropology 11:43–85.

1) **Time allocation (*Tf*):** Hames (1989) presents values of time allocation by sex in Yanomamo in Tables 2 and 3, citing the field notes of Hames (1979) . Because we were unable to locate this source and the author is the same as the original citation, we report the estimates directly from the tables in Hames (1989) using the same activity categories described above for "Yanomamo."

Yassa and Mvae

Pasquet, P., and Koppert, G. J. 1993. Activity Patterns and Energy Expenditure in Cameroonian Tropical Forest Populations. Man and the Biosphere Series 13:311-311.

1) **Time allocation (*Tf*):** Estimates of time spent in different activities are from Table 25.3. Because values are disaggregated by season, we first averaged time estimates for each activity across the three seasons. We then summed time spent on agriculture, fishing, hunting-trapping, and household activities (multiplied by 50%, because roughly half of the activities in this category correspond to food processing or food preparation).

Ye'kwana

Hames, RB. 1989. Time, efficiency, and fitness in the Amazonian protein quest. Research in Economic Anthropology 11: 43–85.

1) **Time allocation (*Tf*):** Hames (1989) presents values of time allocation by sex in Ye'kwana in Tables 2 and 3, citing Hames (1978). Because the author is the same as the original citation, we report the estimates directly from the tables in Hames (1989) using the same activity categories described above for "Yanomamo."

Yukpa

Sackett, R., 1996. Time, energy, and the indolent savage: a quantitative cross-cultural test of the primitive affluence hypothesis. PhD Thesis, University of California, Los Angeles.

1) **Time Allocation (*Tf*):** Estimates of time spent in different activities are from Table 3.1, based on empirical data from Yurmutu Village, Venezuela in 1981-1982. Time spent on subsistence cropping, cash cropping, hunting and fishing, and preparing food are summed to produce total subsistence time estimates.

2) **Energy expenditure (*Ef*):** Table 3.1 also presents estimates of energy expenditure in PAR, along with the daily resting energy expenditure in the footnote. One was subtracted from the PAR for each activity to generate energy expenditure net of resting, and then converted into MJ based on the resting energy expenditure value in the footnote. Those values were then multiplied by the proportion of the day spent on each given activity (from time allocation) and finally were converted into kcals. Values were then summed across the same activity categories as the time estimates above.

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