433 Supplementary Materials:

434 Pontzer et al. *Daily Energy Expenditure through the Human Life Course*

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448 Material and Methods

449 1. <u>Doubly Labeled Water Database</u>

450 Data were taken from IAEA Doubly Labelled Water (DLW) Database, version 3.1,

451 completed April, 2020 (16). This version of the database comprises 6,743 measurements of total

- 452 expenditure using the doubly labeled water method. Of these, a total of 6,421 had valid data for
- total expenditure, fat free mass, fat mass, sex, and age. These 6,421 measurements were used in
- 454 this analysis. This dataset was augmented with published basal expenditure measurements for
- 455 n=136 neonates and infants (*31-36*) that included fat free mass and fat mass. Malnourished or

preterm infants were excluded. For sources that provided cohort means rather than individual
subject measurements (*33*, *36*) means were entered as single values into the dataset without
reweighting to reflect sample size. This approach resulted in 77 measures of basal expenditure,
fat free mass, and fat mass for n=136 subjects. We also added to the dataset published basal and
total expenditure measurements of n=141 women before, during, and after pregnancy (*37-39*)
that included fat free mass and fat mass. These measurements were grouped as pre-pregnancy, 1st
trimester, 2nd trimester, 3rd trimester, and post-partum for analysis.

463 In the doubly labeled water method (5), subjects were administered a precisely measured dose of water enriched in ²H₂O and H₂¹⁸O. The subject's body water pool is thus enriched in 464 deuterium (²H) and ¹⁸O. The initial increase in body water enrichment from pre-dose values is 465 466 used to calculate the size of the body water pool, measured as the dilution space for deuterium (N_d) and ¹⁸O (N_o) . These isotopes are then depleted from the body water pool over time: both 467 isotopes are depleted *via* water loss, whereas ¹⁸O is also lost *via* carbon dioxide production. 468 Subtracting the rate (%/d) of deuterium depletion (k_d) from the rate of ¹⁸O depletion (k_o), and 469 470 multiplying the size of the body water pool (derived from N_d and N_o) provided the rate of carbon 471 doxide production, rCO₂. Entries in the DLW database include the original k and N values for 472 each subject, which were then used to calculate CO₂ using a common equation that has been 473 validated in subjects across the lifespan (17). The rate of CO₂ production, along with each 474 subject's reported food quotient, was then used to calculate energy expenditure (MJ/d) using the 475 Weir equation (40). We used the food quotients reported in the original studies to calculate total 476 energy expenditure from rCO_2 for each subject.

477 The size of the body water pool, determined from N_d and N_o, was used to establish FFM,
478 using hydration constants for fat free mass taken from empirical studies. Other anthropometric

variables (age, height, body mass, sex) were measured using standard protocols. Fat mass was
calculated as (body mass) – (fat free mass).

481 2. <u>Basal Expenditure, Activity Expenditure, and Physical Activityl Level (PAL)</u>

482 A total of 2,008 subjects in the database had associated basal expenditure, measured *via* 483 respirometry. For these subjects, we analyzed basal expenditure, activity expenditure, and 484 "physical activity level" (PAL). Activity expenditure was calculated as [0.9(total expenditure) – 485 (basal expenditure)] which subtracts basal expenditure and the assumed thermic effect of food 486 [estimated at 0.1(total expenditure)] from total expenditure. The PAL ratio was calculated as 487 (total expenditure)/(basal expenditure). As noted above, the basal expenditure dataset was 488 augmented with measurements from neonates and infants, but these additional measures do not 489 have associated total expenditure and could not be used to calculate activity expenditure or PAL.

490 3. Predictive Models for Total, Basal, and Activity Expenditures and PAL

491 We used general linear models to regress measures of energy expenditure against 492 anthropometric variables. We used the base package in R version 4.0.3 (41) for all analyses. 493 General linear models were implemented using the lm function. These models were used to 494 develop predictive equations for total expenditure for clinical and research applications, and to 495 determine the relative contribution of different variables to total expenditure and its components. 496 Given the marked changes in metabolic rate over the lifespan (Figure 1, Figure 2) we calculated 497 these models separately for each life history stage: infants (0 - 1 y), juveniles (1 - 20 y), adults 498 (20 - 60 y), and older adults (60 + y). These age ranges were identified using segmented 499 regression analysis. Results of these models are shown in Table S2.



501 Figure S1. Total expenditure (TEE) increases with body size in a power-law manner. For the entire 502 dataset (n = 6,407): A. the power-law regression for total body mass ($InTEE = 0.593 \pm 0.004$ InMass – 503 0.214 ± 0.018 , p < 0.001, adj. r² = 0.73, model std. err. = 0.223, df = 6419) is less predictive than the 504 regression for **B.** fat free mass (*In*TEE = 0.708 ± 0.004 *In*FFM - 0.391 ± 0.015 , p < 0.001, adj. r² = 0.83, 505 model std. err. = 0.176, df = 6419). For both body mass and fat free mass regressions, power-law 506 regressions outperform linear models, particularly at the smallest body sizes. For all models, for both 507 body mass and fat free mass, children have elevated total expenditure, clustering above the trend line. 508 Children also exhibit elevated basal and activity expenditures (Figure S2). Power-law regressions have 509 an exponent < 1.0, and linear regressions (dashed: linear regression through all data; dotted: linear 510 regression through adults only) have a positive intercept, indicating that simple ratios of C. (total 511 expenditure)/(body mass) or D. (total expenditure)/(fat free mass) do not adequately control for 512 differences in body size (18) as smaller individuals will tend to have higher ratios. Lines in C and D are 513 lowess with span 1/6. In body mass regressions (panel A, power and linear models) and the ratio of (total 514 expenditure)/(body mass) (C), adult males cluster above the trend line while females cluster below due to 515 sex differences in body composition. In contrast, males and females fit the fat free mass regressions (B) 516 and ratio (D) equally well.



518 Figure S2. Infants and children exhibit different relationships between fat free mass and expenditure and 519 the PAL ratio. A: For total expenditure (TEE), regressions for infants (age <1 y, left regression line) and 520 adults (right regression line) intersect for neonates, at the smallest body size. However, the slopes differ, 521 with the infants' regression and 95% CI (gray region) falling outside of that for adults (age 20 - 60 y, 522 extrapolated dashed line). Juvelines (age 1 - 20 y, middle regression line) are elevated, with a regression 523 outside the 95% CI of adults. Juvenile (1 - 20 y) regressions (with 95%CI) are also elevated for basal 524 expenditure (BEE) (B), activity expenditure (AEE) (C), and PAL (D) compared to adults (20 - 60 y). Sex 525 differences in expenditure (A-D) are attributable to differences in fat free mass. Note that total and basal 526 expenditures are measured directly. Activity expenditure is calculated as (0.9TEE - BEE), and PAL is 527 calculated as (TEE/BEE); see Methods.



Figure S3. Changes in body composition over the lifespan: **A.** Body mass; **B.** Fat free mass; **C.** Fat Mass;

⁵³⁰ and **D.** Body fat percentage.

531 4. Adjusted Expenditures

532 We used general linear models with fat free mass and fat mass in adults (20 - 60 y) to 533 calculate adjusted total expenditure and adjusted basal expenditure. The 20 - 60 y age range was 534 used as the basis for analyses because segmented regression analysis consistently identified this 535 period as stable with respect to size-adjusted total expenditure (see below). 536 We used models 2 and 5 in Table S2, which have the form $ln(Expenditure) \sim ln(FFM) +$ 537 ln(Fat Mass) and were implemented using the lm function in base R version 4.0.3 (41). We 538 used *ln*-transformed variables due to the inherent power-law relationship between body size and 539 both total and basal expenditure (ref. 2; see Figure 1, Figure S1). Predicted values for each 540 subject, given their fat free mass and fat mass, were calculated from the model using the 541 pred () function; these *ln*-transformed values were converted back into MJ as exp(Predicted). Residuals for each subject were calculated as (Observed – Predicted) expenditure, and were then 542 543 used to calculate adjusted expenditures as: 544 Adjusted Expenditure = 1 + Residual / Predicted[1] 545 The advantage of expressing residuals as a percentage of the predicted value is that it allows us 546 to compare residuals across the range of age and body size in the dataset. Raw residuals (MJ) do 547 not permit direct comparison because the relationship between size and expenditure is 548 heteroscedastic; the magnitude of residuals increases with size (see Figure S1). Ln-transformed 549 residuals (lnMJ) avoid this problem but are more difficult to interpret. Adjusted expenditures, 550 used here, provide an easily interpretable measure of deviation from expected values. An 551 adjusted expenditure value of 100% indicates that a subject's observed total or basal expenditure 552 matches the value predicted for their fat free mass and fat mass, based on the general linear 553 model derived for adults. An adjusted expenditure of 120% indicates an observed total or basal

expenditure value that exceeds the predicted value for their fat free mass and fat mass by 20%.
Similarly, an adjusted expenditure of 80% means the subject's measured expenditure was 20%
lower than predicted for their fat free mass and fat mass using the adult model. Adjusted total
expenditure and adjusted basal expenditure values for each age-sex cohort are given in Table S3.
Within each metabolic life history stage we used general linear models (1m function in R) to
investigate the effects of sex and age on adjusted total and basal expenditure.

This same approach was used to calculate adjusted basal expenditure as a proportion of total expenditure (Figure 2D), hereafter termed adjusted BEE_{TEE} . Residual_{BEE-TEE}, the deviation of observed basal expenditure from the adult total expenditure regression (eq. 2 in Table S2), was calculated as (Observed Basal Expenditure – Predicted Total Expenditure) and then used to calculate adjusted BEE_{TEE} as

565 Adjusted $BEE_{TEE} = 1 + Residual_{BEE-TEE} / Predicted Total Expenditure$ [2] 566 When adjusted $BEE_{TEE} = 80\%$, observed basal expenditure is equal to 80% of predicted total 567 expenditure given the subject's fat free mass and fat mass. Adjusted BEE_{TEE} is equivalent to adjusted basal expenditure (Figure S4) but provides some analytical advantages. The derivation 568 569 of adjusted BEE_{TEE} approach applies identical manipulations to observed total expenditure and 570 observed basal expenditure and therefore maintains them in directly comparable units. The ratio 571 of (adjusted total expenditure)/(adjusted basal expenditure) is identical to the PAL ratio of (total 572 expenditure)/(basal expenditure), and the difference (0.9adjusted total expenditure- adjusted 573 basal expenditure) is proportional to activity expenditure (Figure S4). Plotting adjusted total 574 expenditure and adjusted BEE_{TEE} over the lifespan (Figure 2D) therefore shows both the relative 575 magnitudes of total and basal expenditure and their relationship to one another in comparable 576 units.



Figure S4. Left: Adjusted BEE_{TEE} corresponds strongly to adjusted basal expenditure (Adj. BEE). <u>Center:</u> The ratio of adjusted total expenditure (adj. TEE) to adjusted BEE_{TEE} is identical to the PAL ratio. <u>Right:</u> The difference (0.9adjusted total expenditure – adjusted BEE_{TEE}) is proportional to activity energy expenditure (AEE). Gray lines: center panel: y = x, right panel: y = 10x.

582 5. <u>Segmented Regression Analysis</u>

583 We used segmented regression analysis to determine the change points in the relationship 584 between adjusted expenditure and age. We used the Segmented (version 1.1-0) package in R 585 (42). For adjusted total expenditure, we examined a range of models with 0 to 5 change points, 586 using the npsi= term in the segmented () function. This approach does not specify the 587 location or value of change points, only the number of them. Each increase in the number of 588 change points from 0 to 3 improved the model adj. R^2 and standard error considerably. 589 Increasing the number of change points further to 4 or 5 did not improve the model, and the 590 additional change points identifed by the segmented () function fell near the change points for 591 the 3-change point model. We therefore selected the 3-change point model as the best fit for 592 adjusted total expenditure in this dataset. Segmented regression results are shown in Table S4. A 593 similar 3-change point segmented regression approach was conducted for adjusted basal 594 expenditure (Figure S4) and adjusted BEE_{TEE} (Figure 2D). We note that the decline in adjusted 595 basal expenditure and adjusted BEE_{TEE} in older adults begins earlier (as identified by segmented

regression analysis) than does the decline in adjusted total expenditure among older adults. However, this difference may reflect the relative paucity of basal expenditure measurements for subjects 40 - 60 y. Additional measurements are needed to determine whether the decline in basal expenditure does in fact begin earlier than the decline in total expedinture. Here, we view the timing as essentially coincident and interpret the change point in adjusted total expenditure (~60 y), which is determined with a greater number of measurements, as more accurate and reliable.

603 Having established that 3 break points provided the best fit for this dataset, we examined 604 whether changes in the age range used to calculate adjusted total energy expenditure affected the 605 age break-points identified by segmented regression. When the age range used to calculate 606 adjusted expenditure was set at 20 - 60 y, the set of break point (95% CI) was: 0.69 (0.61-0.76), 607 20.46 (19.77-21.15), 62.99 (60.14-65.85). When the age range was expanded to 15 - 70 y, break 608 points determined through segmented regression were effectively unchanged: 0.69 (0.62 - 0.76), 609 21.40 (20.60-22.19), 61.32 (58.60-64.03). Break points were also unchanged when the initial age 610 range for adjusted expenditure was limited to 30 - 50 y: 0.69 (0.62-0.77), 20.56 (19.84-21.27), 611 62.85 (59.97-65.74).



Figure S5. Segmented regression analysis of adjusted TEE (A) and adjusted BEE (B). In both panels, the black line and gray shaded confidence region depicts the 3 change-point regression. For adjusted TEE, segmented regressions are also shown for 2 change points (red), 4 change points (yellow), and 5 change points (green). Segmented regression statistics are given in Table S4.

618 6. Organ Size and Basal Expenditure

619 Measuring the metabolic rate of individual organs is notoriously challenging, and the 620 available data come from only a small number of studies. The available data indicate that organs differ markedly in their mass-specific metabolic rates at rest (43). The heart (1848 kJ kg⁻¹ d⁻¹), 621 liver (840 kJ kg⁻¹ d⁻¹), brain (1008 kJ kg⁻¹ d⁻¹), and kidneys (1848 kJ kg⁻¹ d⁻¹) have much greater 622 mass-specific metabolic rates at rest than do muscle (55 kJ kg⁻¹ d⁻¹), other lean tissue (50 kJ kg⁻¹ 623 d⁻¹), and fat (19 kJ kg⁻¹ d⁻¹). Consequently, the heart, liver, brain, and kidneys combined account 624 for ~60% of basal expenditure in adults (21, 22, 44, 45). In infants and children, these 625 626 metabolically active organs constitute a larger proportion of body mass. The whole body mass-627 specific basal expenditure [i.e., (basal expenditure)/(body mass), or (basal expenditure)/(fat free 628 mass)] for infants and children is therefore expected to be greater than adults' due to the greater proportion of metabolically active organs early in life adults (21, 22, 44, 45). Similarly, reduced 629 630 organ sizes in elderly subjects may result in declining basal expenditure (21). 631 To examine this effect of organ size on basal expenditure in our dataset, we used 632 published references for organ size to determine the mass of the metabolically active organs 633 (heart, liver, brain, and kidneys) as a percentage of body mass or fat free mass for subjects 0 - 12634 y (22, 44-46), 15 to 60 y (21, 22), and 60 to 100 y (21, 47). We used these relationships to 635 estimate the combined mass of the metabolically active organs (heart, liver, brain, kidneys) for 636 each subject in our dataset. We then subtracted the mass of the metabolically active organs from 637 measured fat free mass to calculate the mass of "other fat free mass". These two measures, along 638 with measured fat mass, provided a three-compartment model for each subject: metabolically 639 active organs, other fat free mass, and fat (Figure S6A).

640 Following previous studies (21-25), we assigned mass-specific metabolic rates to each 641 compartment and estimated basal expenditure for each subject. We used reported mass-specific 642 metabolic rates for the heart, liver, brain, and kidneys (see above; (43)) and age-related changes 643 in the proportions of these organs for subjects 0 - 12 y(22, 46), 15 to 60 y (21-25), and 60 to 100 644 y (21, 23, 25, 47) to calculate an age-based weighted mass-specific metabolic rate for the 645 metabolically active organ compartment. We averaged the mass-specific metabolic rates of resting muscle and other lean tissue (see above; (21, 22)) and assigned a value of 52.5 kJ kg⁻¹ d⁻¹ 646 to "other fat free mass", and we used a mass-specific metabolic rate of 19 kJ kg⁻¹ d⁻¹ for fat. 647 648 Results are shown in Figure S6. Due to the greater proportion of metabolically active 649 organs in early life, the estimated basal expenditure from the three-compartment model follows a power-law relationship with FFM (using age cohort means, $BEE = 0.38 \text{ FFM}^{0.75}$; Figure S6B) 650 651 that is similar to that calculated from observed basal expenditure in our dataset (see Table S2 and 652 7. Modeling the Effects of Physical Activity and Tissue Specific Metabolism, below). Estimated 653 BEE from the three-compartment model produced mass-specific metabolic rates that are 654 considerably higher for infants and children than for adults and roughly consistent with observed 655 age-related changes in (basal expenditure)/(fat free mass) (Figure S6C). Thus, changes in organ 656 size can account for much of the variation in basal expenditure across the lifespan observed in 657 our dataset.

Nonetheless, observed basal expenditure was ~30% greater early in life, and ~20% lower in older adults, than estimated basal expenditure from the three-compartment model (Figure S6D). The departures from estimated basal expenditure suggest that the mass-specific metabolic rates of one or more organ compartments are considerably higher early in life, and lower late in life, than they are in middle-aged adults, consistent with previous assessments (*21-25*). It is notable, in this context, that observed basal expenditure for neonates is nearly identical to basal
expenditure estimated from the three-compartment model, which assumes adult-like tissue
metabolic rates (Figure S6B,C,D). Observed basal expenditure for neonates is thus consistent
with the hypothesis that the mass-specific metabolic rates of their organs are similar to those of
other adults, specifically the mother.



668

669 Figure S6. Organ sizes and BEE. A. The relative proportions of metabolically active organs (heart, 670 brain, liver, kidneys), other fat free mass (FFM), and fat changes over the life course. Age cohort means 671 are shown. B. Consequently, estimated basal expenditure (BEE) from the three-compartment model 672 increases with fat free mass (FFM) in a manner similar to observed basal expenditure, with C. greater 673 whole body mass-specific basal expenditure (BEE/FFM) early in life. D. Observed basal expenditure is 674 ~30% greater early in life, and ~20% lower after age 60 y, than estimated basal expenditure from the 675 three-compartment model (shown as the ratio of BEE/est.BEE). In panels B, C, and D, age-cohort means 676 for observed (black) and estimated (magenta) basal expenditure are shown.

677 7. Modeling the Effects of Physical Activity and Tissue Specific Metabolism

678 We constructed two simple models to examine the contributions of physical activity and 679 variation in tissue metabolic rate to total and basal expenditure. In the simplest version, we used 680 the observed relationship between basal expenditure and tat free mass for all adults 20 - 60 y 681 determined from linear regression of ln(basal expenditure) and ln(fat free mass) (untransformed regression equation: basal expenditure = 0.32 (fat free mass)^{0.75}, adj. $r^2 = 0.60$, df = 1684, p < 682 683 0.0001) to model basal expenditure as Basal expenditure = 0.32 TM_{age} (fat free mass)^{0.75} 684 [3] 685 The TM_{age} term is tissue metabolic rate, a multiplier between 0 and 2 reflecting a relative 686 increase ($TM_{age} > 1.0$) or decrease ($TM_{age} < 1.0$) in organ metabolic rate relative that expected 687 from the power-law regression for adults. Note that, even when $TM_{age} = 1.0$, smaller individuals 688 are expected to exhibit greater mass-specific basal expenditure (that is, a greater basal 689 expenditure per kg body weight) due to the power-law relationship between basal expenditure 690 and fat free mass. Further, we note that the power-law relationship between basal expenditure 691 and fat free mass for adults is similar to that produced when estimating basal expenditure from 692 organ sizes (see Organ Size and Basal Expenditure, above). Thus, variation in TMage reflects 693 modeled changes in tissue metabolic rate *in addition* to power-law scaling effects, and also, in 694 effect, in addition to changes in basal expenditure due to age-related changes in organ size and 695 proportion. To model variation in organ activity over the lifespan, we either 1) maintained TM_{age} 696 at adult levels ($TM_{age} = 1.0$) over the entire lifespan, or 2) had TM_{age} follow the trajectory of 697 adjusted basal expenditure with age (Figure S8).

To incorporate effects of fat mass into the model, we constructed a second version of the model in which basal expenditure was modeled following the observed relationship with FFM and fat mass for adults 20 - 60 y,

Basal expenditure = 0.32 TM_{age} (fat free mass)^{0.7544} (fat mass)^{0.0003} 701 [4] As with the fat free mass model (eq. 3), we either maintained TM_{age} at 1.0 over the life span or 702 703 modeled it using the trajectory of adjusted basal expenditure. 704 Activity expenditure was modeled as a function of physical activity and body mass 705 assuming larger indivduals expend more energy during activity. We began with activity 706 expenditure, calculated as [0.9(total expenditure) – (basal expenditure)] as described above. The observed ratio of (activity expenditure)/(fat free mass) for adults 20 - 60 y was 0.07 MJ d⁻¹ kg⁻¹. 707 708 We therefore modeled activity expenditure as 709 Activity expenditure = 0.07 PA_{age} (fat free mass) [5]

To incorporate effects of fat mass, we constructed a second version using the ratio of (activity expenditure)/(body weight) for adults 20 - 60y,

[6]

Activity expenditure =
$$0.04 \text{ PA}_{age}$$
 (body weight)

713 In both equations, PA_{age} represents the level of physical activity relative to the mean value for 20 714 -60 y adults. PA_{age} could either remain constant at adult levels (PA_{age}=1.0) over the lifespan or 715 follow the trajectory of physical activity measured via accelerometry, which peaks between 5 -716 10 y, declines rapidly through adolescence, and then declines more slowly beginning at ~40 y 717 (11-13, 26, 27, 48-51). Different measures of physical activity (e.g., moderate and vigorous PA, 718 mean counts per min., total accelerometry counts) exhibit somewhat different trajectories over 719 the lifespan, but the patterns are strongly correlated; all measures show the greatest activity at 5-720 10 y and declining activity in older adults (Figure S7). We chose total accelerometry counts (11,

721 26), which sum all movement per 24-hour period, to model age-related changes in PA_{age}. We 722 chose total counts because activity energy expenditure should reflect the summed cost of all 723 activity, not only activity at moderate and vigorous intensities. Further, the amplitude of change 724 in moderate and vigorous activity over the lifespan is considerably larger than the observed 725 changes in adjusted total expenditure or adjusted activity expenditure (Figure S10). Determining 726 the relative contributions of different measures of physical activity to total expenditure is beyond 727 the scope of the simple modeling approach here and remains an important task for future 728 research.



731 Figure S7. Modeling physical activity across the lifespan. A. Across studies and countries, 732 accelerometer-measured physical activity rises through infancy and early childhood, peaking between 5 733 and 10y before declining to adult levels in the teenage years (11-13, 26, 27, 48-51). Physical activity 734 declines again, more slowly, in older adults. The onset of decline in older adults varies somewhat across 735 studies, beginning between ~40 y and ~60 y. Here, physical activity is shown as minutes/day of moderate 736 and vigorous physical activity. Other measures (e.g., total accelerometer counts; mean counts/min, vector 737 magnitude) follow a similar pattern of physical activity over the life span (11, 26). B. The increase in 738 physical activity from 0 to ~10 y is mirrored by the steady decline in total daily sleep duration during this 739 period (52-55).



741 Figure S8. Results of the fat free mass model. Observed expenditures exhibit a marked age effect on the 742 relationship between expenditure and fat free mass that is evident in both absolute (Figure 1C) and 743 adjusted (Figure 2D) measures. A. If physical activity (PA) and cellular metabolism (TM) remain constant 744 at adult levels, age effects do not emerge from the model. B. When only TM varies, age effects emerge 745 for total expenditure (TEE) and basal expenditure (BEE), but not activity expenditure (AEE; gray arrow). 746 C. Conversely, if only physical activity varies age effects emerge for AEE and TEE but not BEE (black 747 arrows). Adjusted TEE also peaks later in childhood and declines earlier in adulthood (red arrows) than 748 observed. D. Varying both PA and TM gives model outputs similar to observed expenditures.



Figure S9. Results of the fat free mass and fat mass model. Model outputs are similar to those of the fat free mass model (Figure S8). The scenario that best matches the observed relationships between fat free mass, age, and expenditure is D, in which AEE is influenced by age-related variation in both physical activity and cellular metabolism. Abbreviations as in Fig S8.

754 <u>8. Physical Activity, Activity Expenditure and PAL</u>

755 To further interrogate our simple model of expenditure and the contribution of physical 756 activity, we examined the agreement between accelerometery-measured physical activity, 757 adjusted activity expenditure, and modeled PAL over the lifespan. First, as noted in our 758 discussion of the simple expenditure model (see above; Figures 3, S8, S9), moderate and 759 vigorous physical activity and total accelerometry counts show a similar shape profile when 760 plotted against age, but moderate and vigorous physical activity shows a greater amplitude of 761 change over the lifespan (Figure S10). Moderate and vigorous physical activity reach a peak ~4-762 times greater than the mean values observed for 20 - 30 y men and women, far greater than the 763 amplitude of change in adjusted total expenditure.

764 We used adjusted total and basal expenditures to model activity expenditure and PAL 765 over the lifespan for comparison with published accelerometry measures of physical activity. 766 Modeling activity expenditure and PAL was preferable because our dataset has no subjects less 767 than 3 y with measures of both total and basal expenditure, and only 4 subjects under the age of 6 768 y with both measures (Table S1). Using values of adjusted total expenditure and adjusted 769 BEE_{TEE} (basal expenditure expressed as a percentage of total expenditure) for age cohorts from 770 Table S3 enabled us to model activity expenditure and PAL for this critical early period of 771 development, in which both physical activity and expenditure change substantially. We modeled 772 adjusted activity expenditure as [(adjusted total expenditure) – (adjusted BEE_{TEE})] and PAL as 773 [(adjusted total expenditure) / (adjusted BEE_{TEE})], which as we show in Figure S4 corelate 774 strongly with unadjusted measures of activity expenditure and PAL, respectively. 775 Modeled adjusted activity expenditure and PAL showed a somewhat different pattern of 776 change over the lifecoure than either total counts or moderate and vigorous activity measured via

777	accelerometry (Figure S10). Modeled activity expenditure was most similar to total counts, rising
778	through childhood, peaking between 10 and 20 y before falling to a stable adult level; the adult
779	level was stable from $\sim 30 - 75$ y before declining (Figure S10). Modeled PAL rose unevenly
780	from birth through age 20, then remained largely stable thereafter.
781	The agreement, and lack thereof, between the pattern of accelerometry-measured physical
782	activity and modeled activity expenditure and PAL must be assessed with caution. These
783	measures are from different samples; we do not have paired accelerometry and energy
784	expenditure measures in the present dataset. The life course pattern of accelerometry-measured
785	physical activity, particularly total counts, is broadly consistent with that of modeled activity
786	expenditure. However, more work is clearly needed to determine the effects of physical activity
787	and other factors to variation in activity expenditure and PAL over the lifecourse.
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800	9.IAEA DLW database consortium
801 802 803 804	This group authorship contains the names of people whose data were contributed into the database by the analysis laboratory but they later could not be traced, or they did not respond to emails to assent inclusion among the authorship. The list also includes some researchers who did not assent inclusion because they felt their contribution was not sufficient to merit authorship
805 806 807 808	Dr Stefan Branth University of Uppsala, Uppsala, Sweden Dr Niels C. De Bruin
808 809 810	Erasmus University, Rotterdam, The Netherlands
811 812 813	Dr Lisa H. Colbert Kinesiology, University of Wisconsin, Madison, WI,
814 815 816	Dr Alice E. Dutman TNO Quality of Life, Zeist, The Netherlands
817 818 819	Dr Simon D. Eaton, University college London, London, UK
820 821 822	Dr Cara Ebbeling Boston Children's Hospital, Boston, Massachusetts, USA.
823 824 825	Dr Sölve Elmståhl Lund University, Lund, Sweden
826 827 828	Dr Mikael Fogelholm Dept of Food and Nutrition, Helsinki, Finland
829 830 831	Dr Tamara Harris Aging, NIH, Bethesda, MD,
832 833 834	Dr Rik Heijligenberg Academic Medical Center of Amsterdam University, Amsterdam, The Netherlands
835 836 837	Dr Hans U. Jorgensen Bispebjerg Hospital, Copenhagen, Denmark
838 839 840	Dr Christel L. Larsson University of Gothenburg, Gothenburg, Sweden
841	Dr David S. Ludwig

842 843	Boston Children's Hospital, Boston, Massachusetts, USA.
844 845 846	Dr Margaret McCloskey Royal Belfast Hospital for Sick Children, Belfast, Northern Ireland
847 848 849	Dr Gerwin A. Meijer Maastricht University, Maastricht, The Netherlands
850 851 852	Dr Daphne L. Pannemans Maastricht University, Maastricht, The Netherlands
853 854 855	Dr Renaat M. Philippaerts Katholic University Leuven, Leuven, Belgium
856 857	Dr John J. Reilly Universoty of Strathclyde, Glasgow, UK
858 859 860	Dr Elisabet M. Rothenberg Göteborg University, Göteborg, Sweden
861 862	Dr Sabine Schulz University of Maastricht, Maastricht, The Netherlands
863 864 865	Dr Amy Subar Epidemiology and Genomics, Division of Cancer Control, NIH, Bethesda, MD,
866	Dr Minna Tanskanan
867 868	University of Jyväskilä, Jyväskilä, Finland
867 868 869 870 871	University of Jyväskilä, Jyväskilä, Finland Dr Ricardo Uauy Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago Chile.
867 868 869 870 871 872 873 874	 University of Jyväskilä, Jyväskilä, Finland Dr Ricardo Uauy Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago Chile. Dr Rita Van den Berg-Emons Maastricht University, Maastricht, The Netherlands
867 868 869 870 871 872 873 874 875 876 877	 University of Jyväskilä, Jyväskilä, Finland Dr Ricardo Uauy Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago Chile. Dr Rita Van den Berg-Emons Maastricht University, Maastricht, The Netherlands Dr Wim G. Van Gemert Maastricht University, Maastricht, The Netherlands
867 868 869 870 871 872 873 874 875 876 877 878 879 880	 Dr Ninna Tanskalen University of Jyväskilä, Jyväskilä, Finland Dr Ricardo Uauy Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago Chile. Dr Rita Van den Berg-Emons Maastricht University, Maastricht, The Netherlands Dr Wim G. Van Gemert Maastricht University, Maastricht, The Netherlands Dr Erica J. Velthuis-te Wierik TNO Nutrition and Food Research Institute, Zeist, The Netherlands
867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883	 Dr Minia Talskalen University of Jyväskilä, Jyväskilä, Finland Dr Ricardo Uauy Institute of Nutrition and Food Technology (INTA), University of Chile, Santiago Chile. Dr Rita Van den Berg-Emons Maastricht University, Maastricht, The Netherlands Dr Wim G. Van Gemert Maastricht University, Maastricht, The Netherlands Dr Erica J. Velthuis-te Wierik TNO Nutrition and Food Research Institute, Zeist, The Netherlands Dr Wilhelmine W. Verboeket-van de Venne Maastricht University, Maastricht, The Netherlands



Figure S10. A. Physical activity measured via accelerometry from published analyses (*11-13, 26, 27, 48-51*) and B. modeled activity expenditure and PAL calculated from cohort means for adjusted total
 expenditure and adjusted BEE_{TEE} in Table S3. Accelerometry measures and modeled activity expenditure are normalized to mean values for 20 – 30 y subjects.

(90	(80	170	(65)	(60	55	(45	(40	(35	(30	(25	(20	(16	(12	(10	(8)	(6	(4	(2	(1,	(0.5	(0,0	Age (Β.	(9U,	(80	(70	(65	(60	(55	(50	(45	(40	35	3)	(20	(16,	(12	(10	(8)	(6	7 4	3	(0.5	(0,0	Age (A.	Table BEE
100j	8	8	25	65	6 3	5.8	3.5	40	35]	30	25]	20]	16]	12]	<u>10</u>	<u>∞</u>	<u>6</u>	4	2]*	1,*	.5J*	Group			J	90	80	70]	5	60]	<u>5</u> .	5	53	40	20	25	20]	<u>6</u>	12	<u>o</u> .	<u>.</u>	<u>5</u> <u>4</u>	5	2).5]	group			S1. K *Infant
4	46	187 19	40 I 22 0	21	2 2	3 4 • 4	3 99	112 8	95 7	114 7	135 4:	154 4	18 1	5 1	22 2	18 10	9 1	ω _	18 (86	20 (88	22 (11)	z	۳ ح		2	149 6	682 23	387 9	252 9	111 7	105 93	172 14	301 16	232 16	201 10	257 12	211 10	227 12	ლ ფ	79 7	42 4:	99 ¥ 12 ±	2 82 - 94	2 2 2	102 93	z	⊓ 2		ey cha data f
94.	6 84	0 75	68 F	7 62	58 2	0 47.	42	7 38.	<u>ا</u>	1 27.	2 23.	1 18	1 14.	80 11	1 9	3 7.	1 5	_ ω		-	3	me	-		94	2 2 2 3	82 75.	68.	0 63	58	3 52	47	42	38	32	6 23)3 18	99 14	4	9 9	3	5 5 5	ט פ נ		3	me	-		aracte rom ti
93 1.44	02 2.58	25 287	05 1.64	50 1.44	18 140	19 127	92 1.33	10 1.41	18 1.34	90 1.46	41 1.40	57 0.83	47 1.33	12 0.61	19 0.64	19 0.58	74 0.34	80 0.35	1.56	0.85	0.21	an sd	п	Ag	30 1.79	65 2.40	05 2.79	04 1.47	22 1.47	24 1.48	80 1.48	43 146	81 1.36	05 145	00 136	140	32 0.99	37 1.18	14 0.58	10 0.48	03 0.65	34 0.63	0.46	68 0.18	24 0.13	an sd	П	Ag	ristics by he literat
94.00 1.85	83.96 2.31	75 42 2 96	68.66 1.45	63.11 1.66	57.52 124	48.20 1.37	42.57 1.29	38.17 1.45	33.10 1.47	27.98 1.44	23.70 1.37	18.92 0.75	13.95 0.87	11.07 0.28	9.49 0.61	7.38 0.72	5.41 0.47	4.00 NA	032	04	017	mean sd	Z	е (у)	94.00 1.85	84.20 2.50	75.40 2.92	67.98 1.37	63.16 1.55	57.76 1.38	52.59 1.48	47.76 1.46	42.92 1.37	38 01 142	20.00 1.40	23.48 1.38	18.37 1.11	14.53 1.14	11.01 0.47	9.14 0.53	7.25 0.62	5.31 0.68	1.64 0.48	0.72 0.20	0.24 0.13	mean sd	Z	€ (V)	/ age-sex co ure, males a
62.4 12.2	63.3 12.9	67 1 14 B	71.2 16.3	65.7 10.1	71.0 12.6	00 5 20.7	80.8 22.2	78.5 20.6	74.8 20.3	65.9 17.4	66.4 19.2	63.7 15.9	65.8 26.5	36.2 6.3	31.6 13.0	24.5 6.5	19.1 2.9	21.6 8.3	10.33	8.76	5.45	mean sd	т	Mas	1.5 0.801	157.5 7.2	159.4 6.7	161.4 6.7	161.5 7.1	163.6 6.2	163.5 5.9	164.6 6.1	163.7 7.2	164.2 85	164.1 6.9	164.6 7.4	163.9 7.4	160.6 8.4	148.5 8.0	133.5 9.3	122.5 10.2	112.7 6.7	82.3 5.0	69.1 4.3	59.7 4.6	mean sd	п	Heigt	hort for A. nd females
62.6 9.5	75.6 14.3	80 2 14 0	76.4 15.1	79.9 12.6	87.0 10.2	92.9 18.6	82.3 18.5	80.1 20.2	77.5 18.3	75.5 20.9	77.5 19.3	74.8 12.5	44.0 14.0	45.3 13.9	35.6 12.9	24.7 4.6	19.9 3.7	18.0 NA	173	112	16	mean sd	Z	s (kg)	0.5 9.991	168.7 7.5	171.3 8.0	172.4 7.3	174.5 7.4	177.3 7.6	177.1 6.7	176.8 7.2	176.3 7.7	176 7 7 6	177 2 8.9	177.6 9.3	177.9 7.7	168.4 12.1	143.7 9.6	136.9 10.0	125.2 8.8	113.7 7.5	83.2 5.9	71.8 4.6	60.4 5.4	mean sd	z	ıt (cm)	Total expen pooled. N v
41.07 8.83	37.66 5.74	39 22 A 23	42.61 5.96	40.40 5.51	43.40 4.84	45.01 7.42	47.08 8.20	46.96 7.57	45.46 6.95	42.37 7.04	43.32 7.03	42.43 7.32	40.05 11.53	27.77 3.42	22.19 4.08	18.07 3.75	15.16 2.78	14.87 4.25	7.72	6.55	4.17	mean sd	п	Fat Free	12.90	63.61 12.29	68.50 14.42	73.67 15.55	76.21 18.34	75.35 17.07	79.37 19.42	73.18 17.40	74.23 18.78	75 50 17 68	07.39 16.72 73.30 17.78	67.08 17.92	64.31 16.34	56.72 14.67	45.15 11.65	33.62 11.50	27.62 8.49	20.41 3.86	11.06 1.41	8.54 1.40	5.71 1.28	mean sd	т	Mat	iditure (TEE alues for inf
45.18 4.93	49.76 7.38	53 83 7 24	53.98 9.37	56.76 5.89	61.72 6.29	63.72 6.48	59.28 9.50	58.10 9.93	58.52 9.23	58.82 9.21	60.09 11.38	57.96 7.28	32.51 7.19	30.56 6.44	26.32 6.07	20.01 2.50	16.81 2.61	14.96 NA	212	0.70	0.81	mean sd	M	Mass (kg)	62.60 9.47	72.76 13.80	77.19 14.92	78.50 16.64	82.34 17.11	87.53 13.91	88.38 16.51	83.74 15.81	82.12 15.90	81 55 19 88	70.00 18.51	76.35 18.60	74.36 16.73	61.73 18.36	44.91 13.45	35.76 13.69	25.71 5.49	21.74 5.73	17.09 1.65	9.17 1.33	6.12 1.52	mean sd	M	ss (kg)) from the D ant BEE (0
21.4 7.0	25.7 8.9	27 9 1n n	28.6 11.7	25.3 5.9	27.6 8.9	30.5 14.5	33.8 15.3	31.5 14.9	29.3 14.6	23.5 12.9	23.1 13.7	21.3 11.2	25.7 16.8	8.4 4.4	9.4 10.4	6.4 4.4	3.9 1.8	6.7 4.0	2.6	2.2	1.3	nean sd	т	Fat M	23.6 4.1	25.7 4.7	26.9 5.2	28.3 5.7	29.3 6.8	28.3 5.7	29.7 7.0	27.4 6.3	27.6 6.3	28 0 66	20.2 5.9	24.8 6.4	23.9 5.8	21.9 4.8	20.3 4.1	18.2 4.5	18.0 3.9	16.0 2.0	16.3 1.0	17.8 2.1	15.8 1.6	nean sd	п	B	LW datab to 2 years
17.4 6.9	25.9 8.2	26.3 8.6	22.4 7.3	23.2 8.2	25.3 7.2	29.1 13.7	23.0 12.5	22.0 12.3	18.9 11.8	16.7 15.1	17.4 11.0	16.8 9.2	11.5 7.5	14.7 8.5	9.2 7.8	4.6 3.8	3.1 1.5	3.0 NA	0.69	0.53	0.30	nean sd	z	ass (kg)	22.0 3.4	25.5 4.2	26.2 4.2	26.2 4.5	27.2 4.5	27.8 3.7	28.4 4.8	27.2 4.3	26.4 4.3	26 0 5 4	24.9 4.8	24.1 4.9	23.5 4.9	21.5 5.6	21.2 4.4	18.4 4.8	16.2 2.4	16.6 2.9	16.8 1.0	17.7 1.3	16.4 1.9	nean sd	z	M	ase and E) indicate
33.97 8.06	39.58 7.41	40 59 6 78	38.96 7.67	38.16 4.80	38 09 581	38.08 10.35	39.94 8.82	38.29 9.00	36.97 9.70	33.50 10.86	32.62 9.55	31.95 8.30	35.77 12.72	22.44 8.25	25.80 13.92	24.29 11.13	20.41 8.91	29.54 6.26	24.96	24.97	21.21	mean sd	п	Fa	38.26 8.50	38.02 5.22	39.62 5.65	42.20 5.85	42.92 6.83	43.42 6.06	44.66 6.51	44.02 6.44	44.76 7.56	45 47 6 82	43.30 6.81 45.20 6.81	43.26 6.97	42.49 7.26	39.37 7.27	31.85 6.35	22.96 5.01	19.28 3.97	15.34 2.31	9.04 1.32	6.32 0.91	4.56 0.87	mean sd	П	Fat Free	3. subjects w number of er
26.90 8.93	33.49 5.41	32 14 6 27	28.78 5.58	28.22 6.25	28.68 5.83	29.89 8.78	26.35 9.81	25.86 8.49	23.09 8.65	20.50 8.21	21.25 8.61	21.65 8.25	24.17 8.02	29.96 10.88	22.26 13.20	17.41 10.59	15.04 4.77	16.91 NA	3.27	3.76	8.94	mean sd	R	ıt%	45.16 4.93	48.22 7.07	52.29 7.86	53.61 8.62	56.70 8.07	60.67 7.13	59.54 8.29	59.52 8.15	58.79 8.91	58 91 10 51	59.97 3.63	60.29 10.53	57.11 7.58	47.15 11.42	30.42 6.63	25.53 6.09	20.14 2.75	16.83 2.92	9.74 1.41	6.94 1.18	5.03 1.09	mean sd	M	Mass (kg)	ith basal exp ntries and (r
5.11 1.05	4.55 0.81	4 76 0 71	5.30 0.61	5.49 0.82	5.92 0.83	5./3 0.78	6.24 1.02	6.22 0.83	6.03 0.94	5.83 0.87	5.77 0.81	5.63 0.95	5.65 1.18	5.43 0.87	4.67 0.87	4.24 0.85	4.26 0.82	4.07 0.67	2.44	2.17	1.14	mean sd	п	BEE	20.72 (.23	25.59 8.70	28.88 10.12	31.47 11.13	33.29 12.58	31.93 12.22	34.72 14.08	29.15 12.40	29.47 12.78	30 03 12 59	24.00 12.51 28 18 12 96	23.82 13.08	21.82 11.76	17.34 9.25	13.30 7.90	10.66 7.74	8.34 5.33	5.06 2.43	2.02 0.87	2.23 0.80	1.14 0.63	mean sd	п	Fat Ma	penditure (B number of in
5.79 1.28	5.10 0.85	5 91 100	6.53 0.93	7.02 0.79	7.56 0.72	7.99 1.16	7.50 1.09	7.32 1.17	7.47 1.09	7.50 1.17	7.34 1.24	7.86 0.90	6.10 1.08	5.66 0.65	5.53 0.95	4.71 0.59	4.69 1.05	3.93 NA	0.44	0.29	0.52	mean sd	M	(MJ/d)	17.42 6.93	24.53 8.24	24.90 8.74	24.89 9.55	25.64 10.52	26.86 9.42	28.84 10.08	24.21 9.91	23.33 9.98	22.01 12.10	20 07 12:54	16.06 11.14	17.25 12.26	14.58 10.95	14.50 8.25	10.23 8.76	5.57 3.62	4.91 3.55	1.96 0.76	2.23 0.65	1.09 0.66	mean sd	M	ass (kg)	EE) measu dividuals). S
0.63 1.17	1.72 0.93	262114	2.87 0.88	2.68 0.79	2 55 0.76	3.2/ 0.79	3.35 1.32	3.09 1.25	3.20 1.17	2.85 1.58	3.12 1.75	3.51 1.26	3.43 1.83	2.38 0.71	1.72 1.02	1.62 0.78	0.81 0.84	1.27 0.45				mean sd	т	AEE (34.7 7.9	39.3 7.0	41.1 6.7	41.6 7.2	42.5 6.7	41.0 7.7	42.2 7.8	38.3 8.3	38.2 8.0	38 4 77	36.7 9.0	33.6 9.6	32.3 8.9	29.2 8.3	27.8 10.3	29.1 10.9	27.8 10.3	24.1 6.8	18.1 7.5	25.6 6.4	19.2 7.7	mean sd	п	Fa	rements. Au See Methods
1.05 1.02	2.88 1.26	3 30 137	3.37 1.21	4.16 1.43	4.43 1.50	5.06 1.99	4.46 2.03	4.40 1.79	4.40 2.21	4.62 2.92	4.99 2.39	5.74 1.59	2.34 1.51	2.74 1.24	2.74 1.25	2.04 1.22	1.16 0.60	1.37 NA				mean sd	Z	MJ/d)	20.9 8.9	32.9 6.2	31.4 6.3	30.8 6.4	29.9 7.4	30.0 6.7	31.8 6.1	28.0 7.1	27.4 7.9	26.4.8.3	22.3 8.6	19.6 8.9	21.5 10.0	21.9 10.4	30.1 11.2	24.7 13.1	20.3 8.7	21.1 8.0	16.7 5.7	24.3 6.7	16.6 7.8	mean sd	Ξ	t%	ctivity exper
1.29 0.3	1.56 0.2	173 0.2	1.72 0.2	1.68 0.2	1.60 0.1	1./5 0.1	1.72 0.2	1.67 0.2	1.71 0.2	1.65 0.2	1.71 0.3	1.82 0.2	1.80 0.3	1.62 0.2	1.54 0.2	1.54 0.15	1.34 0.2	1.45 0.0				mean sd	т	PAL	0.20 1.2	7.43 1.3	8.21 1.3	9.02 1.3	9.24 1.5	9.70 1.5	9.75 1.5%	9.80 1.48	9.92 1.9	990 169	9.00 1.9	9.64 2.1	10.08 1.9	9.96 2.3	8.90 1.88	7.36 1.6	6.62 1.3	5.59 0.8	3.70 0.6	2.53 0.3	1.68 0.4	mean sd	ч	TE	nditure (At
2 1.35 0.22	7 1.75 0.31	s 175 n.3n	0 1.70 0.24	3 1.78 0.28	5 1 75 0.22	7 1.83 0.30	4 1.77 0.28	3 1.78 0.26	2 1.77 0.31	7 1.80 0.39	2 1.86 0.32	5 1.93 0.24	4 1.55 0.32	1 1.66 0.28	6 1.68 0.27	9 1.61 0.30	1 1.41 0.20	9 1.50 NA				mean sd	M	(TEE/BEE)	0 7.60 1.03	6 8.69 1.70	0 10.17 1.80	2 10.86 1.79	4 12.09 2.36	4 13.27 2.97	9 12.69 2.03	3 12.77 2.47	4 12.68 2.39	3 12 90 2 92	4 13.24 3.75	2 13.88 3.56	5 14.02 2.59	5 12.20 2.53	3 9.35 1.68	7 8.54 1.77	s 7.20 1.13	0 6.35 1.18	4 3.99 0.74	6 2.90 0.78	6 1.83 0.58	mean sd	M	E (MJ/d)	EE) = 0.9TEE -

Table S2. Model parameters	for Total, Basal, a	nd Acti	ivity E	xpend	diture a	and PA	\L (p <	0.0001	for a	ll mod	els)						
Total Expenditure (TEE)		Ne	onate	s (0 -	1y)	Ju	veniles	s (1 - 2	0y)	A	dults (20 - 60)y)	Old	er Adu	ılts (60	+ y)
Model	Factors	ß	std.err.	t-value	p	ß	std.err.	t-value	p	ß	std.err.	t-value	p	ß	std.err.	t-value	p
1. TEE~Body Mass+Sex+Age	Intercept (MJ/d)	0.255	0.111	2.304	0.022	2.592	0.118	22.032	0.000	5.984	0.197	30.427	0.000	10.917	0.375	29.130	0.000
	BODY Wass (Kg)	0.205	0.025	8.061	0.000	0.080	0.004	22.494	0.000	2,660	0.002	30.274	0.000	0.048	0.002	24.701	0.000
	Age (y)	0.951	0.205	4.632	0.000	0.183	0.035	11.832	0.000	-0.025	0.001	-6.635	0.000	-0.080	0.004	-18.451	0.000
	model	N	SEE	df	adjR2	Ν	SEE	df	adjR2	Ν	SEE	df	adjR2	N	SEE	df	adjR2
		235	0.343	231	0.733	1403	1.719	1399	0.726	2805	2.032	2801	0.482	1978	1.311	1974	0.509
	Intercent (MI/d)	<u>B</u>	std.err.	t-value	<u>D</u>	<u>B</u>	std.err.	t-value	<u>D</u>	<u>B</u>	std.err.	t-value	<u>0</u>	<u>B</u>	std.err.	t-value	<u>D</u>
2. III(TEE)~III(FFW)+III(FW)	In(Fat Free Mass: kg)	-1.270	0.074	25 311	0.000	-0.121	0.028	-4.259	0.000	0.916	0.050	71 248	0.000	0.773	0.062	-12.403	0.000
	In(Fat Mass; kg)	0.053	0.014	3.862	0.000	-0.041	0.007	-5.714	0.000	-0.030	0.005	-5.986	0.000	-0.016	0.009	-1.828	0.068
	model	N	SEE	df	adjR2	N	SEE	df	adjR2	Ν	SEE	df	adjR2	N	SEE	df	adjR2
		235	0.160	232	0.796	1403	0.154	1400	0.842	2805	0.142	2802	0.646	1978	0.139	1975	0.533
3 In(TEE)~In(EEM)+In(EM)+Sex+A	Intercent (MI/d)	<u>1 122</u>	0.089	12 610	0.000	-0 348	<u>std.err.</u> 0.044	-7 956	0.000	<u>5</u> -1 118	<u>std.err.</u> 0.069	-16 129	0.000	0.092	0.089	1.032	0.302
	In(Fat Free Mass; kg)	1.025	0.067	15.215	0.000	0.784	0.021	38.119	0.000	0.920	0.020	45.942	0.000	0.736	0.025	29.883	0.000
	In(Fat Mass; kg)	0.034	0.015	2.294	0.023	-0.019	0.007	-2.622	0.009	-0.032	0.006	-5.149	0.000	-0.030	0.010	-3.118	0.002
	Sex(M)	-0.014	0.021	-0.644	0.520	0.067	0.009	7.592	0.000	-0.002	0.009	-0.249	0.803	0.011	0.010	1.042	0.298
	nge (y) model	0.254 N	0.062 SEE	3.104 df	adiR2	-0.012 N	SEE	-6.630	adiR2	0.000 N	SEE	0.765 df	0.444 adiR2	-0.008 N	SEE	-19.036 df	0.000 adiR2
		235	0.157	230	0.804	1403	0.147	1398	0.857	2805	0.142	2800	0.646	1978	0.128	1973	0.606
Basal Expenditure (BEE)					Factors	Ju	veniles	5 (1 - 2	Uy)	P P	duits (20 - 60	Jy)	Old	er Adu	Its (60	+ y)
4. BEE~Body Mass+Sex+Age				ntercer	1 actors	2.965	0.158	18,785	0.000	3.649	0.104	34,943	0.000	5.905	0.379	15.571	0.000
			Ē	Body Ma	ass (kg)	0.034	0.003	11.004	0.000	0.036	0.001	32.494	0.000	0.031	0.002	14.277	0.000
					Sex(M)	1.185	0.101	11.733	0.000	1.263	0.045	27.915	0.000	0.724	0.066	10.939	0.000
					Age (y)	0.033	0.015	2.212	0.028 adiP2	-0.008	0.002	-3.487	0.001 adiP2	-0.041	0.004	-9.501	0.000 adiP2
					mouel	345	0.848	341	0.581	1036	0.694	1032	0.682	621	0.761	617	0.520
						β	std.err.	t-value	p	β	std.err.	t-value	p	β	std.err.	t-value	p
5. In(BEE)~In(FFM)+In(FM)			ا - ر-	ntercep	ot (MJ/d)	0.055	0.078	0.706	0.480	-0.954	0.059	-16.176	0.000	-0.923	0.099	-9.350	0.000
			In(Fat	Free Ma	ass; kg)	0.535	0.028	19.103	0.000	0.707	0.016	45.353	0.000	0.656	0.027	24.640	0.000
				I(Fat IV	model	-0.095 N	SEE	-6.764 df	adiR2	0.019 N	SEE	3.406 df	adiR2	0.028 N	SEE	1.619 df	0.069 adiR2
						345	0.153	342	0.573	1036	0.103	1033	0.688	621	0.135	618	0.530
						ß	std.err.	t-value	p	β	std.err.	t-value	p	ß	std.err.	t-value	p
6. ln(BEE)~ln(FFM)+ln(FM)+Sex+A	(ln/Fat	ntercep	ot (MJ/d)	-0.270	0.100	-2.704	0.007	-0.497	0.079	-6.281	0.000	-0.089	0.151	-0.587	0.557
			In(Fat	riee Mi h(Fat Mi	ass; kg) ass: ko)	0.663	0.044	-4 005	0.000	0.561	0.023	24.008	0.000	0.549	0.040	2 619	0.000
					Sex(M)	0.090	0.019	4.780	0.000	0.086	0.010	8.297	0.000	0.037	0.016	2.288	0.022
					Age (y)	-0.018	0.003	-5.102	0.000	-0.001	0.000	-2.124	0.034	-0.006	0.001	-8.814	0.000
					model	N	SEE	df	adjR2	N 1026	SEE	df	adjR2	N	SEE	df 616	adjR2
						345	111147							621			11587
						345	0.137	340	0.000	1030	0.100	1031	0.706	621	0.126	010	0.582
Activity Expenditure (AEE)						345 Ju	venile	340 s (1 - 2	0.000 0y)	A	dults (20 - 60	0.708)y)	621 Old	er Adu	ilts (60	0.582 + y)
Activity Expenditure (AEE)				ntoroon	Factors	345 Ju	veniles	s (1 - 2	0.058 0y)	<u>β</u>	dults (20 - 60	0.708)y)	621 ΟΙd	er Adu	Ilts (60	0.582 + y)
Activity Expenditure (AEE) Model 7. AEE~Body Mass+Sex+Age			I	ntercep 3ody Ma	Factors ot (MJ/d)	345 Ju -0.481 0.032	0.137 veniles std.err. 0.237 0.005	s (1 - 2 <u>t-value</u> -2.030 6.774	0.038 0y) 0.043 0.000	β 1.822 0.023	dults (std.err. 0.252 0.003	20 - 60 <u>t-value</u> 7.231 8.870	0.708 Dy) 0.000 0.000	621 ΟΙd <u>β</u> 5.835 0.014	er Adu <u>std.err.</u> 0.604 0.003	Ilts (60 <u>t-value</u> 9.663 4.111	0.582 + y) <u>p</u> 0.000 0.000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age			l	ntercep Body Ma	Factors of (MJ/d) ass (kg) Sex(M)	345 Ju -0.481 0.032 0.999	0.137 venile: <u>std.err.</u> 0.237 0.005 0.152	5 (1 - 2 <u>t-value</u> -2.030 6.774 6.581	0.038 Dy) 0.043 0.000 0.000	Α <u>β</u> 1.822 0.023 1.308	duits (std.err. 0.252 0.003 0.109	20 - 60 <u>t-value</u> 7.231 8.870 11.983	0.708 Dy) 0.000 0.000 0.000	621 ΟΙd <u>β</u> 5.835 0.014 0.661	er Adu <u>std.err.</u> 0.604 0.003 0.105	11ts (60 <u>t-value</u> 9.663 4.111 6.264	0.582 + y) <u>p</u> 0.000 0.000 0.000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age			I	ntercep Body Ma	Factors ot (MJ/d) ass (kg) Sex(M) Age (y)	345 J μ <u>β</u> -0.481 0.032 0.999 0.113	0.137 veniles std.err. 0.237 0.005 0.152 0.022	5 (1 - 2 -2.030 6.774 6.581 5.133	0.038 Dy) 0.043 0.000 0.000 0.000	β 1.822 0.023 1.308 -0.012	0.100 duits (<u>std.err.</u> 0.252 0.003 0.109 0.006	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216	0.708 Dy) 0.000 0.000 0.000 0.027	621 ΟΙd <u>β</u> 5.835 0.014 0.661 -0.058	0.128 er Adu <u>std.err.</u> 0.604 0.003 0.105 0.007	Its (60 <u>t-value</u> 9.663 4.111 6.264 -8.354	0.582 + y) <u>p</u> 0.000 0.000 0.000 0.000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age				ntercep Body Ma	Factors ot (MJ/d) ass (kg) Sex(M) Age (y) model	345 Ju -0.481 0.032 0.999 0.113 Ν 345	0.137 veniles <u>std.err.</u> 0.237 0.005 0.152 0.022 SEE 1.275	s (1 - 2 <u>t-value</u> -2.030 6.774 6.581 5.133 <i>df</i> 341	0.038 Dy) <u>P</u> 0.043 0.000 0.000 0.000 adjR2 0.476	β 1.822 0.023 1.308 -0.012 N 1036	0.100 dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032	0.708 <u>p</u> 0.000 0.000 0.000 0.027 <i>adjR</i> 2 0.201	621 ΟΙd <u>β</u> 5.835 0.014 0.661 -0.058 <i>N</i> 621	0.128 er Adu <u>std.err.</u> 0.604 0.003 0.105 0.007 <i>SEE</i> 1.212	ilts (60 <u>t-value</u> 9.663 4.111 6.264 -8.354 df 617	0.582 b 0.000 0.000 0.000 0.000 adjR2 0.219
Activity Expenditure (AEE) Model 7. AEE~Body Mass+Sex+Age			Ē	ntercep Body Ma	Factors ass (kg) Sex(M) Age (y) model	345 <u>β</u> -0.481 0.032 0.999 0.113 <u>N</u> 345 <u>β</u>	0.137 veniles std.err. 0.237 0.005 0.152 0.022 SEE 1.275 std.err.	s (1 - 2 <u>t-value</u> -2.030 6.774 6.581 5.133 <i>df</i> 341 <u>t-value</u>	0.038 <u>D</u> 0.043 0.000 0.000 adjR2 0.476 <u>D</u>	β 1.822 0.023 1.308 -0.012 N 1036	0.100 dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675 <u>std.err.</u>	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u>	0.708 <u>P</u> 0.000 0.000 0.000 0.027 <i>adjR</i> 2 0.201 <u>P</u>	621 <u>β</u> 5.835 0.014 0.661 -0.058 <u>N</u> 621 <u>β</u>	er Adl std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err.	Its (60 <u>t-value</u> 9.663 4.111 6.264 -8.354 df 617 t-value	0.582 + y) <u>P</u> 0.000 0.000 0.000 adjR2 0.219 <u>P</u>
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM)			 	ntercep Body Ma	Factors at (MJ/d) ass (kg) Sex(M) Age (y) model	345 Ju <u>β</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>β</u> -3.330	0.137 veniles <u>std.err.</u> 0.237 0.005 0.152 0.022 SEE 1.275 <u>std.err.</u> 0.231	5 (1 - 2 -2.030 6.774 6.581 5.133 <i>df</i> 341 <u>t-value</u> -14.447	0.038 Dy 0.043 0.000 0.000 0.000 adjR2 0.476 <u>P</u> 0.000	β 1.822 0.023 1.308 -0.012 N 1036 β -4.124	dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 SEE 1.675 <u>std.err.</u> 0.248	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627	0.708 <u>p</u> 0.000 0.000 0.000 0.000 0.027 <i>adjR</i> 2 0.201 <u>p</u> 0.000	621 <u>β</u> 5.835 0.014 0.661 -0.058 <u>N</u> 621 <u>β</u> -2.556	er Adı <u>std.err.</u> 0.604 0.003 0.105 0.007 <i>SEE</i> 1.212 <u>std.err.</u> 0.401	Its (60 <u>t-value</u> 9.663 4.111 6.264 -8.354 df 617 <u>t-value</u> -6.381	0.582 + y) <u>p</u> 0.000 0.000 0.000 0.000 adjR2 0.219 <u>p</u> 0.000
Activity Expenditure (AEE) <u>Model</u> 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM)			l I In(Fat	ntercep Body Ma	Factors tr (MJ/d) ass (kg) Sex(M) Age (y) model tr (MJ/d) ass; kg)	345 Ju <u>B</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>B</u> -3.330 1.301	0.137 venile: <u>std.err.</u> 0.237 0.005 0.152 0.022 SEE 1.275 <u>std.err.</u> 0.231 0.082	s40 s (1 - 2 <u>t-value</u> -2.030 6.774 6.581 5.133 <i>df</i> 341 <u>t-value</u> -14.447 15.776	0.038 Dy <u>P</u> 0.043 0.000 0.000 0.000 <i>adjR2</i> 0.476 <u>P</u> 0.000 0.000 0.000	β 1.822 0.023 1.308 -0.012 N 1036 β -4.124 1.476	duits (std.err. 0.252 0.003 0.109 0.006 SEE 1.675 std.err. 0.248 0.065	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614	0.708 <u>P</u> 0.000 0.000 0.000 0.000 0.0027 adjR2 0.201 <u>P</u> 0.000 0.000 0.000	621 Old <u>B</u> 5.835 0.014 0.661 -0.058 <i>N</i> 621 <u>B</u> -2.556 0.952	er Adı std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108	Its (60 <u>t-value</u> 9.663 4.111 6.264 -8.354 df 617 <u>t-value</u> -6.381 8.807	0.582 b 0.000 0.000 0.000 0.000 adjR2 0.219 <u>p</u> 0.000 0.000 0.000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM)			l In(Fat	ntercep Body Ma ntercep Free Ma n(Fat Ma	Factors tr (MJ/d) ass (kg) Sex(M) Age (y) model model tr (MJ/d) ass; kg) model ass; kg)	345 <u>Ju</u> <u>B</u> -0.481 0.032 0.999 0.113 N 345 <u>B</u> -3.330 1.301 -0.099 N	0.137 std.err. 0.237 0.005 0.152 0.022 SEE 1.275 std.err. 0.231 0.082 0.042 SEE	s (1 - 2 <u>t-value</u> -2.030 6.774 6.581 5.133 <i>df</i> 341 <u>t-value</u> -14.447 15.776 -2.414 <i>df</i>	0.038 Dy) <u>P</u> 0.043 0.000 0.000 0.000 <i>adjR2</i> 0.476 <u>P</u> 0.000 0.000 0.000 0.000	β 1.822 0.023 1.308 -0.012 N 1036 β -4.124 1.476 -0.142	dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>SEE</u>	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> <u>11.983</u> -2.216 <i>df</i> <u>11.983</u> -2.216 <i>df</i> <u>11.983</u> -2.216 <i>df</i> <u>12.983</u> -2.216 <i>df</i> <u>13.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> <u>14.983</u> -2.216 <i>df</i> -1.6627 22.614 <i>df</i> -6.17 <i>df</i> -6.17 -7.17	0.708 <u>P</u> 0.000 0.000 0.000 0.000 0.027 adjR2 0.201 <u>P</u> 0.000 0.000 0.000 0.000 0.000	621 Οid <u>β</u> 5.835 0.014 0.661 -0.058 <i>N</i> 621 <u>β</u> -2.556 0.952 -0.042 <i>N</i>	0.128 er Adl 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108 0.062 SEE	bits (60) 1-value 9.663 4.111 6.264 -8.354 df 617 1-value -6.381 8.807 -0.685 df	0.582 b 0.000 0.000 0.000 0.000 adjR2 0.219 <u>p</u> 0.000 0.000 0.494 adjR2
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM)			l I In(Fat Ir	ntercep Body Ma ntercep Free Ma n(Fat Ma	Factors tt (MU/d) ass (kg) Sex(M) Age (y) model tt (MU/d) ass; kg) model	345 <u>B</u> -0.481 0.032 0.999 0.113 N 345 <u>B</u> -3.330 1.301 -0.099 N 338	0.137 std.err. 0.237 0.005 0.152 0.022 SEE 1.275 std.err. 0.231 0.082 0.041 SEE 0.445	s40 s (1 - 2 -2.030 6.774 6.581 5.133 df 341 t-value -14.447 15.776 -2.414 df 335	0.038 Dy) <u>D</u> 0.043 0.000 0.000 <i>adjR2</i> 0.476 <u>D</u> 0.476 <u>D</u> 0.000 0.000 0.016 <i>adjR2</i> 0.550	β 1.822 0.023 1.308 -0.012 N 1036 β -4.124 1.476 -0.142 N 1023	dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>SEE</u> 0.423	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614 -6.130 <i>df</i> 1020	0.708 P 0.000 0.000 0.000 0.000 0.000 0.201 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.201 0.000 0.000 0.227 0.201 0.000 0.000 0.000 0.227 0.201 0.000 0.000 0.000 0.000 0.227 0.201 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.0000 0.00000 0.00000 0.0000000 0.00000000	621 <u>B</u> 5.835 0.014 0.661 -0.058 N 621 <u>B</u> -2.556 0.952 -0.042 N 612	er Adu std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108 0.062 SEE 0.546	bits (60) 1-value 9.663 4.111 6.264 -8.354 df 617 t-value -6.381 8.807 -0.685 df 609 1000	0.582 P 0.000 0.000 0.000 0.000 0.219 P 0.000 0.000 0.000 0.494 adjR2 0.116
Activity Expenditure (AEE) <u>Model</u> 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM)			l In(Fat Ir	ntercep Body Ma ntercep Free Ma	Factors tt (MJ/d) ass (kg) Sex(M) Age (y) model tt (MJ/d) ass; kg) model	345 Ju <u>B</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>B</u> -3.330 1.301 -0.099 <i>N</i> 338 <u>B</u>	0.137 veniles std.err, 0.237 0.005 0.152 0.022 SEE 1.275 std.err, 0.231 0.082 0.041 SEE 0.445 std.err,	s40 s (1 - 2 -2.030 6.774 6.581 5.133 df 341 t-value -14.447 15.776 -2.414 df 335 t-value	0.008 0y) <u>P</u> 0.043 0.000 0.000 0.000 0.000 0.476 <u>P</u> 0.000 0.000 0.000 0.000 0.016 adjR2 0.550 <u>P</u>	β 1.822 0.023 1.308 -0.012 N 1036 β -4.124 1.476 -0.142 N 1023	dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>SEE</u> 0.423 <u>std.err.</u>	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614 -6.130 <i>df</i> 1020 <u>t-value</u>	D D P 0.000 0.000 0.000 0.000 0.000 0.201 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 adjR2 0.333	621 ΟΙd § 5.835 0.014 0.661 -0.058 <i>N</i> 621 § -2.556 0.952 -0.042 <i>N</i> 612 §	er Adl. std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108 0.062 SEE 0.546 std.err.	bits (60 t-value 9.663 4.111 6.264 -8.354 df 617 t-value -6.381 8.807 -0.685 df 609 t-value	0.582 + y) <u>P</u> 0.000 0.000 0.000 adjR2 0.219 <u>P</u> 0.000 0.000 0.000 0.494 adjR2 0.116 <u>P</u>
Activity Expenditure (AEE) Model 7. AEE~Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A			I In(Fat Ir	ntercep Body Ma ntercep Free Ma (Fat Ma	Factors tt (MJ/d) ass (kg) Sex(M) Age (y) model tt (MJ/d) ass; kg) ass; kg) model tt (MJ/d)	345 Ju <u>B</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>B</u> -3.330 1.301 -0.099 <i>N</i> 338 <u>B</u> -3.437	0.137 veniles std.err, 0.237 0.005 0.152 0.022 SEE 1.275 std.err, 0.231 0.082 0.041 SEE 0.445 std.err, 0.332	5 (1 - 2 1 - 2	0.038 0y) <u>P</u> 0.043 0.000 0.000 0.000 0.000 0.000 0.016 adjR2 0.550 <u>P</u> 0.000 0.000 0.000 0.016	β 1.822 0.023 1.308 -0.012 N 1036 β -4.124 1.476 -0.142 N 1023 β -5.194	dults (std.err, 0.252 0.003 0.109 0.006 SEE 1.675 std.err, 0.248 0.065 0.023 SEE 0.423 std.err, 0.342	20 - 60 <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614 -6.130 <i>df</i> 1020 <u>t-value</u> -15.187	0.708 P 0.000 0.000 0.000 0.000 0.027 adjR2 0.201 P 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000000	621 Old § 5.835 0.014 0.661 -0.058 <i>N</i> 621 § -2.556 0.952 -0.042 <i>N</i> 612 § 0.222	er Adu std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108 0.062 SEE 0.546 std.err. 0.625	bits (60 t-value 9.663 4.111 6.264 -8.354 df 617 t-value -6.381 8.807 -0.685 df 609 t-value 0.355 355	0.582 + y) P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.494 adjR2 0.116 P 0.723
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A			I In(Fat Ir In(Fat	ntercep Body Ma ntercep Free Ma ntercep Free Ma Free Ma	Factors tr (MU/d) ass (kg) Sex(M) Age (y) model tr (MU/d) ass; kg) model tr (MU/d) ass; kg) ass; kg)	345 JU <u>B</u> -0.481 0.032 0.999 0.113 N 345 <u>B</u> -3.330 1.301 -0.099 N 338 <u>B</u> -3.437 1.349 -0.093	0.137 venile: <u>std.err.</u> 0.237 0.005 0.152 0.022 <i>SEE</i> 1.275 <u>std.err.</u> 0.231 0.082 0.041 <i>SEE</i> 0.445 <u>std.err.</u> 0.332 0.145 0.045	5 (1 - 2 1 - 2 030 6 .774 6 .581 5 .133 <i>df</i> 3 41 1 - value -14.447 15 .776 -2.414 <i>df</i> 3 35 1 - value -10.366 9 .295 -2.097	0.038 0y) <u>P</u> 0.043 0.000 0.000 adjR2 0.476 <u>P</u> 0.000 0.016 adjR2 0.550 <u>P</u> 0.000 0.016 0.0550 <u>P</u> 0.000 0.000	B 1.822 0.023 1.308 -0.012 N 1036 B -4.124 1.476 -0.142 N 1023 B -5.194 1.816 -0.221	dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>sEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>sEE</u> 0.423 <u>std.err.</u> 0.342 0.100 0.024	1031 20 - 6(<u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614 -6.130 <i>df</i> 1020 <u>t-value</u> -15.187 18.079 -7.598	0.708 Py) P 0.000 0.000 0.000 0.000 0.27 adjR2 0.201 P 0.0000 0.0000 0.000 0.000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000000	621 Oid § 5.835 0.014 0.661 -0.058 <i>N</i> 621 § -2.556 0.952 -0.042 <i>N</i> 612 § 0.222 0.674 -0.074	0.128 er Adl <u>std.err.</u> 0.604 0.003 0.105 0.007 <u>SEE</u> 1.212 <u>std.err.</u> 0.401 0.108 0.062 <u>SEE</u> 0.546 <u>std.err.</u> 0.625 0.625 0.066	bits (60 1-value 9.663 4.111 6.264 -8.354 df 617 -6.381 8.807 -0.685 off 609 1-value 0.355 4.088 -0.151	0.582 + y) p 0.000 0.000 0.000 0.000 0.219 p 0.000 0.000 0.494 adjR2 0.116 p 0.723 0.000 0.880
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A			l In(Fat In(Fat In(Fat	ntercep Body Ma Intercep Free Ma Intercep Free Ma Intercep Free Ma	Factors tr (MU/d) ass (kg) Sex(M) Age (y) model tr (MU/d) ass; kg) model tr (MU/d) ass; kg) ass; kg) ass; kg) ass; kg) Sex(M)	345 JU <u>B</u> -0.481 0.032 0.999 0.113 N 345 <u>B</u> -3.330 1.301 -0.099 N 338 <u>B</u> -3.437 1.349 -0.903 0.006	0.137 venile: std.err. 0.237 0.005 0.152 0.022 SEE 1.275 std.err. 0.231 0.082 0.041 SEE 0.445 std.err. 0.332 0.145 0.044 0.064 0.064	5 (1 - 2 1 - 2 (0.30) 6 .774 6 .581 5 .133 <i>df</i> 3 41 1 - 1 4.447 1 5 .776 -2 .414 <i>df</i> 3 35 1 - 1 0.366 9 .295 -2 .097 0 .090	0.038 0y) <u>P</u> 0.043 0.000 0.000 <i>adjR2</i> 0.476 <u>P</u> 0.000 0.016 <i>adjR2</i> 0.550 <u>P</u> 0.000 0.016 <i>adjR2</i> 0.550 <u>P</u> 0.000 0.000 0.037 0.928	A <u>B</u> 1.822 0.023 1.308 -0.012 N 1036 <u>B</u> -4.124 1.476 -0.142 N 1023 <u>B</u> -5.194 1.816 -0.221 -0.122	dults (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>sEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>sEE</u> 0.423 <u>std.err.</u> 0.342 0.100 0.029 0.044	1031 20 - 60 <u>t-value</u> 7.231 8.870 df 10.983 -2.216 df 10.32 <u>t-value</u> -16.627 22.614 -6.130 df 1020 <u>t-value</u> -15.187 18.079 -7.598 -4.480	0.708 Py) P 0.000 0.000 0.000 0.000 0.27 adjR2 0.201 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	621 Oid § 5.835 0.014 0.661 -0.058 <i>N</i> 621 § -2.556 0.952 -0.042 <i>N</i> 612 § 0.222 0.674 -0.070 0.079	0.128 er Adl std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108 0.062 SEE 0.546 std.err. 0.625 0.165 0.067	bits (60 1-value 9.663 4.111 6.264 -8.354 df 617 -6.381 8.807 -0.685 off 609 1-value 0.355 4.088 -0.151 1.181 -0.885	0.382 •
Activity Expenditure (AEE) <u>Model</u> 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A			I In(Fat Ir In(Fat Ir	ntercep Body Ma ntercep Free Ma n(Fat Ma Free Ma n(Fat Ma	Factors tt (MJ/d) ass (kg) Sex(M) Age (y) model tt (MJ/d) ass; kg) model tt (MJ/d) ass; kg) ass; kg) Sex(M) Age (y)	345 Ju <u>B</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>B</u> -3.330 1.301 -0.099 <i>N</i> 338 <u>B</u> -3.437 1.349 -0.093 0.006 -0.005	0.137 veniles std.err. 0.237 0.005 0.152 0.022 SEE 1.275 std.err. 0.231 0.082 0.041 SEE 0.445 std.err. 0.332 0.145 0.445 0.044 0.062 0.011	5 (1 - 2 1 - 2 (0.30) 6 .774 6 .581 5 .133 <i>df</i> 3 .41 1 - 1 .447 1 5 .776 -2 .414 <i>df</i> 3 .35 1 - 1 .447 1 5 .776 -2 .414 <i>df</i> 3 .35 1 - 1 .0366 9 .295 -2 .097 0 .090 0 .0974	0.008 0y) P 0.043 0.000 0.000 0.000 0.000 0.000 0.016 adjR2 0.550 P 0.0500 0.550 0.050 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000000	A B 1.822 0.023 1.308 -0.012 N 1036 B -4.124 1.476 -0.142 N 1023 B -5.194 1.816 -0.221 -0.198 0.002	0.100 duits (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>SEE</u> 0.423 <u>std.err.</u> 0.342 0.100 0.029 0.044 0.001	1031 20 - 60 <u>t-value</u> 7.231 8.870 df 1032 <u>t-value</u> -16.627 22.614 -6.130 df 1020 <u>t-value</u> -15.187 18.079 -7.598 -4.480 1.162	0.708 0.000 0.000 0.000 0.0027 adjR2 0.201 P 0.0000 0.0000 0.000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000000	621 621 621 621 621 621 621 623 624 625 60.952 60.955 60.9	0.128 er Adl std.err. 0.604 0.003 0.105 0.007 SEE 1.212 std.err. 0.401 0.108 0.062 SEE 0.546 std.err. 0.625 0.165 0.066 0.067 0.003	offs lits (60 1-value 9.663 4.111 6.264 -8.354 df 617 1-value -6.381 8.807 -0.685 df 609 1-value 0.355 4.088 -0.151 1.181	0.582 P 0.000 0.000 0.000 0.000 0.000 adjR2 0.219 P 0.000 0.000 0.000 0.000 0.494 adjR2 0.116 P 0.723 0.000 0.238 0.000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A			l In(Fat Ir In(Fat Ir	ntercep Body Ma ntercep Free Ma (Fat Ma Free Ma h(Fat Ma	Factors tt (MJ/d) ass (kg) Sex(M) Age (y) model tt (MJ/d) ass; kg) model tt (MJ/d) ass; kg) ass; kg) Sex(M) Age (y) model	345 Ju <u>B</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>B</u> -3.330 1.301 -0.099 <i>N</i> 338 <u>B</u> -3.437 1.349 -0.093 0.006 -0.005 <i>N</i> 228	0.137 veniles std.err. 0.237 0.005 0.152 0.022 SEE 1.275 std.err. 0.231 0.082 0.041 SEE 0.445 std.err. 0.332 0.145 0.445 0.044 0.062 0.011 SEE 0.044 0.062 0.011 SEE 0.044 0.065 0.065 0.065 0.065 0.065 0.065 0.065	5 (1 - 2 1 -2030 6 .774 6 .581 5 .133 <i>df</i> 3 41 1 -value -14.447 15 .776 6 .744 <i>df</i> 3 35 1 -2.414 <i>df</i> 3 35 1 -2.414 <i>df</i> 3 35 1 -2.037 0 .090 0 .0474 <i>df</i>	0.003 0y) P 0.043 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.00000 0.00000 0.00000 0.000000 0.00000000	A B 1.822 0.023 1.308 -0.012 N 1036 B -4.124 1.476 -0.142 N 1023 B -5.194 1.816 -0.221 -0.122 N 1.816 -0.022 N -0.022 -0.023	0.100 duits (<u>std.err.</u> 0.252 0.003 0.109 0.006 <u>SEE</u> 1.675 <u>std.err.</u> 0.248 0.065 0.023 <u>SEE</u> 0.423 <u>std.err.</u> 0.342 0.100 0.029 <u>0.044</u> 0.001 <u>SEE</u> 0.023	1031 20 - 6C <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614 -6.130 <i>df</i> 1020 <u>t-value</u> -15.187 18.079 -7.598 -4.480 1.162 <i>df</i> 1.162 <i>df</i>	0.708 P 0.000 0.000 0.000 0.0027 adjR2 0.201 P 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000000	621 621 621 621 621 621 6335 0.014 0.068 N 621 62 0.952 -0.042 N 612 6 0.222 0.674 -0.010 0.079 -0.025 N 612 6 6 0.674 -0.025 0.642 -0.04	0.128 er Adl. std.err, 0.604 0.003 0.105 0.007 SEE 1.212 std.err, 0.401 0.108 SEE 0.546 std.err, 0.622 SEE 0.165 0.066 0.067 0.003 SEE	offs lits (60 1-value 9.663 4.111 6.264 -8.354 df 617 1-value -6.381 8.807 -0.685 df 0.355 4.088 -0.551 1.181 -7.852 df	+ y) <u>p</u> 0.000 0.000 0.000 0.000 adjR2 0.219 <u>p</u> 0.000 0.000 0.494 adjR2 0.723 0.000 0.494 adjR2 0.723 0.000 0.880 0.238 0.000 adjR2 0.000 0.238 0.000 0.238 0.000 0.238 0.000 0.248 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.000000 0.00000000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A			l In(Fat Ir In(Fat Ir	ntercep Body Ma ntercep Free M (Fat M (Fat M	Factors tr (MU/d) ass (kg) Sex(M) Age (y) model tr (MU/d) ass; kg) ass; kg) ass; kg) Sex(M) Age (y) model	345 Ju § -0.481 0.032 0.999 0.113 <i>N</i> 345 § -3.330 1.301 -0.099 <i>N</i> 338 § -3.437 1.349 -0.093 0.006 <i>N</i> 338	0.137 venile: std.err, 0.237 0.005 0.152 0.022 SEE 1.275 std.err, 0.231 0.082 0.044 SEE 0.445 std.err, 0.332 0.145 0.044 0.062 0.0145 0.044 0.062 0.0145 0.0446 0.015 0.015 0.022 0.023 0.023 0.023 0.025 0.022 0.023 0.0445 0.0445 0.0446 0.04666 0.04666 0.0466 0.04666 0.04666 0.04666 0.	5 (1 - 2 1 -2030 6 .774 6 .581 5 .133 <i>df</i> 3 41 1 -value -14.447 15 .776 -2 .414 <i>df</i> 3 35 1 -value 1 0.366 9 .295 -2 .097 0 .090 0 .0474 <i>df</i> 3 33	0.003 P P 0.043 0.000 0.000 0.000 0.476 P 0.000 0.006 0.006 0.016 adjF22 0.550 P 0.000 0.000 0.016 adjF2 0.550 P 0.000 0.000 0.001 0.000 0.001 0.000 0.001 0.000 0.001 0.000 0.000 0.001 0.0000 0.00000 0.00000 0.0000 0.00000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000000	A B 1.822 0.023 1.308 -0.012 N 1036 B -4.124 1.476 -0.142 N 1023 B -5.194 1.816 -0.221 -0.102 N 1.023 -0.022 -0.022 -0.023 -0.012 -0.014 -0.142 -0.0122 -0.0142 -0.012 -0.012 -0.01	0.100 duits (<u>std.err</u> , 0.252 0.003 0.109 0.006 SEE 1.675 <u>std.err</u> , 0.248 0.065 <u>std.err</u> , 0.248 0.063 <u>std.err</u> , 0.342 0.100 0.023 <u>std.err</u> , 0.342 0.100 0.023 <u>std.err</u> , 0.342 0.100 0.023 <u>std.err</u> , 0.342 0.100 0.023 <u>std.err</u> , 0.342 0.100 0.023 <u>std.err</u> , 0.342 0.100 0.023 <u>std.err</u> , 0.342 0.003 <u>std.err</u> , 0.342 0.003 <u>std.err</u> , 0.342 0.004 0.004 0.004 0.005 <u>std.err</u> , 0.342 0.003 <u>std.err</u> , 0.342 0.004 0.004 0.004 0.005 <u>std.err</u> , 0.342 0.003 0.004 0.023 <u>std.err</u> , 0.342 0.005 0.023 <u>std.err</u> , 0.342 0.005 0.023 <u>std.err</u> , 0.342 0.005 0.023 0.042 0.044 0.042 0.044 0.042 0.044 0.041 0.042 0.044 0.041 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.042 0.044 0.045 0.0	1031 20 - 6C <u>t-value</u> 7.231 8.870 11.983 -2.216 <i>df</i> 1032 <u>t-value</u> -16.627 22.614 -6.130 <i>df</i> 1020 <u>t-value</u> -15.187 18.079 -7.598 -4.480 1.162 <i>df</i> 1018	0.708 P 0.000 0.000 0.000 0.000 0.201 P 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000 0.00000000	621 621 621 621 621 625 621 621 621 621 621 621 621 621	0.128 er Adl. std.err, 0.604 0.003 0.105 0.007 SEE 1.212 std.err, 0.401 0.108 SEE 0.546 std.err, 0.625 0.165 0.066 0.067 0.003 SEE 0.521	oris Its (60) t-value 9.663 4.111 6.264 -8.354 df 617 t-value -6.381 8.807 -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 -7.852 df 607	0.382 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 adjR2 0.000 0.000 0.219 P 0.000 0.000 0.494 adjR2 0.116 P 0.7238 0.000 adjR2 0.1258 0.000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE)			l In(Fat Ir In(Fat Ir	ntercep 30dy Ma htercep Free M (Fat M Free M (Fat M	Factors tt (MJ/d) ass (kg) Sex(M) Age (y) model tt (MJ/d) ass; kg) model tt (MJ/d) ass; kg) ass; kg) Sex(M) Age (y) model	345 Ju § -0.481 0.032 0.999 0.113 N 345 § -3.330 1.301 -0.099 N 338 9 -0.409 N 338 Ju	0.137 venile: std.err. 0.237 0.005 0.152 0.025 SEE 1.275 std.err. 0.231 0.082 0.041 SEE 0.444 0.062 0.145 0.044 SEE 0.446 venile:	s40 s (1 - 2 <u>t-value</u> -2.030 6.774 6.581 5.133 <i>df</i> 341 <u>t-value</u> -14.447 15.776 -2.414 <i>df</i> 335 <u>t-value</u> -10.366 9.295 -2.097 0.090 -0.474 <i>df</i> 333 t (1 - 2 t t t t t t t t	0.033 0.043 0.043 0.000 0.000 0.000 0.000 0.476 P 0.476 P 0.476 0.000 0.000 0.000 0.000 0.000 0.476 0.476 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0476 0.000 0.002 0.002 0.536 adifiZ 0.547 0.557 0	A B 1.822 0.023 1.308 -0.012 N 1036 B -4.124 N 1036 -5.194 1.816 -0.022 N 1023 A	0.100 citlerr, 0.252 0.003 0.109 0.006 0.023 SEE 1.675 std.err, 0.248 0.023 SEE 0.423 std.err, 0.248 0.023 SEE 0.423 0.100 0.023 SEE 0.420 0.440 0.342 0.100 0.034 0.044 0.044 0.042 0.420 0.40	1031 20 - 60 1-value 7.231 8.870 11.983 -2.216 df 1032 1-value -16.627 22.614 -6.130 df 1020 1-value -15.187 18.079 -7.598 -4.480 1.162 df 1018 20 - 60	0.700 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.001 P 0.000 0.001 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.246 adfR2 0.345	621 Old § 5.835 0.014 0.661 -0.058 N 621 § -2.556 0.952 -0.042 N 612 0.252 0.674 -0.079 0.022 0.674 -0.025 N 612 Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old Old	0.128 er Adl. <u>std.err</u> , 0.604 0.003 0.105 0.007 <i>SEE</i> 1.212 <u>std.err</u> , 0.401 0.108 0.062 <i>SEE</i> 0.546 <u>std.err</u> , 0.625 0.066 0.067 0.003 <i>SEE</i> 0.521 er Adl.	oris Its (60) t-value 9.663 4.111 6.264 -8.354 df 617 t-value -6.381 8.807 -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 -7.852 df 607 Its (60)	0.582 P 0.000 0.000 0.000 0.000 0.000 0.000 0.219 P 0.000 0.219 P 0.000 0.0494 adjR2 0.116 P 0.723 0.000 0.328 0.723 0.000 adjR2 0.195 + y)
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. P.dt. Brdy Mass + Sex+Age			II In(Fat Ir In(Fat	ntercep 30dy Ma htercep Free M (Fat M (Fat M	Factors tr (MJ/d) Sex(M) Age (y) model tr (MJ/d) sass; kg) model tr (MJ/d) sass; kg) model tr (MJ/d) Sex(M) Age (y) Factors	345 Ju <u>B</u> -0.481 0.032 0.999 0.113 <i>N</i> 345 <u>B</u> -3.330 <i>N</i> 338 <u>B</u> -3.330 <i>N</i> 338 <u>B</u> -3.437 <i>N</i> -0.093 0.005 <i>N</i> 338 <u>B</u> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -0.092 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 <i>N</i> -3.338 -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 <i>N</i> -0.095 -0.005 <i>N</i> -0.095 -0.005 -0.05	0.137 veniles std.err. 0.237 0.005 0.022 0.025 0.022 0.022 0.025 0.022 0.025 0.022 0.022 0.025 0.022 0.021 0.022 0.021 0.022 0.021 0.022 0.021 0.022 0.021 0.022 0.031 0.044 0.004 0.044 0.044 0.004 0.044 0.0046 0.0046 0.0	situ s (1 - 2 t-value 2.030 6.774 6.581 5.133 df 3.41 15.776 -2.414 df 3.35 t-value 9.295 -2.097 0.090 0.474 df 3.33 5 (1 - 2 t-value 9.295 -2.097 0.990 0.474 df 5.513 -2.014 -2.017 -2.097 -0.096 -2.097 -0.074 -2.017 -2.017 -2.017 -2.017 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.097 -2.014 -2.014 -2.014 -2.014 -2.014 -2.017 -	0.033 0.043 0.043 0.000 0.000 adjR2 0.476 P 0.000 0.000 0.000 0.000 0.000 0.050 P 0.000 0.050 0.550 P 0.000 0.050 0.000 0.050 0.000 0.055 0.000 0.000 0.000 0.000 0.055 0.000 0.003 0.0547 0.547 0.000 0.000 0.547 0.0000 0.00000 0.0000 0.00000 0.00000 0.0000 0.0000000 0.00000 0.000000 0.00000000	A B 1.822 0.023 1.302 0.012 N 1036 4.124 1.476 -0.142 N 1023 B -4.124 1.476 -0.142 N 1023 B -0.142 N 1023 B 0.002 N 1023 A B 4.002	0.100 cults (std.err, 0.252 0.003 0.0252 0.0252 0.0252 0.0252 0.025 0.252 0.023 std.err, 0.248 0.065 0.023 std.err, 0.248 0.065 0.023 std.err, 0.248 0.065 0.023 std.err, 0.248 0.025 0.248 0.025 0.025 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.026 0.000 0.006 SEE 0.248 0.026 0.020 0.020 0.000 0.020 0.000 0.000 0.020 0.000 0.000 0.020 0.000 0.000 0.020 0.000 0.000 0.020 0.000 0.000 0.020 0.000 0.000 0.000 0.020 0.0000 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	20 - 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Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. PAL-Body Mass+Sex+Age			I I In(Fat Ir In(Fat	ntercep Sody Ma Ntercep Free M n(Fat M n(Fat M n(Fat M	Factors tr (MJ/d) ass (kg) Sex(M) Age (y) model tr (MJ/d) ass; kg) model tr (MJ/d) Sex(M) Age (y) Factors Factors tr (MJ/d) Factors Kg) Kg) Kg) Kg) Kg) Kg) Kg) Kg)	345 345 9 0.032 0.999 0.113 N 345 8 3.330 N 338 8 9 0.093 0.006 N 338 9 0.006 N 338 9 0.002 N 338 9 0.032 0.999 N 1.301 1.301 1.301 0.999 N 338 8 1.349 0.993 N 338 8 1.349 1.34	0.137 veniles std.err. 0.237 0.005 0.022 0.025 0.022 0.025 0.022 0.025 0.022 0.025 0.022 0.025 0.022 0.022 0.025 0.022 0.022 0.025 0.022 0.022 0.025 0.022 0.031 0.082 0.044 0.004 0.00	situ 5 (1 - 2 2.030 6.774 6.581 3.030 6.774 6.581 3.030 6.774 6.581 3.041 15.776 6.5133 df -14.447 15.776 6.724 4.47 15.776 0.909 -10.366 9.295 2.097 0.090 -0.474 df 3.33 5 (1 - 2 1.541ue 26.913 5 (1 - 2 2.093	0.033 0.043 0.043 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.050 <u>P</u> 0.000 0.050 <u>P</u> 0.000 0.050 <u>P</u> 0.000 0.050 <u>P</u> 0.000 0.550 <u>P</u> 0.000 0.550 <u>P</u> 0.000 0.547 <u>P</u> 0.003 0.037 <u>0.037</u> 0.037	A B B 1.822 0.023 1.308 1.0012 N 1036 4.124 1.476 -0.142 N 1023 B -5.194 -6.194 N 1023 B -6.194 N 1023 N 1023 N 1023 N 1023 N	0.100 cults (std.err. 0.252 0.003 0.025 0.0252 0.025 0.025 0.023 std.err. 0.248 0.065 5 td.err. 0.248 0.065 0.248 5 td.err. 0.423 std.err. 0.420 0.100 0.029 0.044 0.000 0.100 0.252 0.252 0.003 0.000 0.000 0.252 0.003 0.0000 0.0000 0.000 0.000 0.000 0.000 0.000 0.0000 0.000	1031 200 - 650 1-value 7.231 8.870 11.983 2.216 df 1032 2.2614 df 1032 -16.627 7.598 -4.800 df 1018 20 - 650 1-value 2.058 2.058	0.708 P 0.000 0.000 0.000 0.000 0.001 0.002 adjR2 0.000 0.000 0.000	621 621 0Id 8 5.835 0.014 0.061 N 621 8 2.2556 0.952 -0.042 8 0.952 -0.042 8 0.252 0.025 N 612 0.074 -0.055 N 612 0.074 -0.025 N 612 0.074 -0.025 N 612 0.074 -0.025 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.044 -0.055 -0.042 -0.042 -0.042 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.052 -0.042 -0.042 -0.052 -0.042 -0.052 -0.042 -0.052 -0.042	0.126 er Adu 0.604 0.604 0.003 0.105 1.212 5.25 1.212 5.25 1.212 0.401 0.062 5.25 0.625 0.625 0.625 0.665 0.066 0.066 0.066 0.066 0.066 0.066 0.0521 er Adu 0.521 er Adu 0.521 0.521 er Adu 0.054 0.521 er Adu 0.521 0.521 er Adu 0.054 0.521 er Adu 0.054 0.521 er Adu 0.054 0.521 er Adu 0.055 0.521 er Adu 0.055 er Adu 0.055 er Adu 0.055 er Adu 0.055 er Adu 0.055 e C 0.055 e 0.055 e 0 0 0 0 0 0 0 0 0 0 0 0 0 0	its (60) t-value 9.663 9.663 4.111 6.264 - -8.354 df 617 - -6.381 - -6.381 - 8.364 - -6.385 df -0.685 - -0.685 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.585 - -0.151 - -0.739 - -0.239 - -0.239 -	0.582 + y) <u>p</u> 0.000 0.000 0.000 0.000 0.000 0.219 <u>p</u> 0.000 0.000 0.494 <i>adjR2</i> 0.116 <u>p</u> 0.000 0.880 0.238 0.000 0.494 + y) <u>p</u> 0.0000 0.000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. PAL~Body Mass+Sex+Age			I In(Fat In(Fat Ir In I I I I I I I I	ntercep Body Ma Intercep Free M Intercep Free M Intercep Body Ma	Factors tr (MJ/d) ass (kg) Sex(M) Model tr (MJ/d) ass; kg) model tr (MJ/d) ass; kg) model tr (MJ/d) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) Sex(M) Age (v) model Factors Sex(M) Age (v) model Sex(M) Age (v) model Sex(M) Age (v) model Sex(M) Age (v) model Sex(M) Age (v) model Sex(M) Age (v) model Sex(M) Age (v) model Sex(M) Age (v) Sex(M) Age (v) Sex(M) Age (v) Sex(M) Age (v) Model Sex(M) Age (v) Sex(M) Age (v) Age (v) A	345 345 0.481 0.032 0.999 0.113 N 345 -3.330 1.3019 N 338 8 -3.330 N 338 8 -3.330 N 345 N -3.330 N 345 -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.330 N -3.345 N -3.350 N -3.345 N -3.350 N -3.350 N -3.457 N -3.457 N -3.350 N -3.457 -5.457 N -5.457 N -5.457 N -5.457 N -5.457 N -5.457 N -5.457 -5.457 N -5.457 -5.45	0.137 venile: std.err. 0.237 0.005 0.152 SEE 1.275 Std.err. 0.231 0.082 Std.err. 0.332 0.444 0.332 0.444 0.048 std.err. 0.446 venile: std.err. 0.446 venile: std.err. 0.448 venile: 0.446 0.044 0.044 0.044 0.048 0.044 0.048 0.044 0.048 0.008 0.048 0.008	situ 5 (1 - 2 - 2.030) 6.774 6.581 5.133 df -14.447 15.776 6.583 df -14.447 15.776 4.587 -2.097 0.090 -0.474 df 333 5 (1 - 2 L-value 2.6913 2.093 5 (1 - 2 L-value 2.6913 1.641	0.033 0.043 0.043 0.000 0.000 0.000 adjR2 0.476 0.000 0.000 0.000 0.000 0.000 0.000 0.016 0.028 0.547 0.557 0.557 0.557 0.547 0.557 0.577 0.	A B 1.822 0.023 1.308 -0.012 N 1036 -4.124 N 1036 - -4.124 N 1036 - -5.194 1.816 -0.142 N 1023 0.188 0.012 N 1023 0.198 0.021 N 0.021 0.094	0.100 std.err, 0.252 0.003 0.109 0.006 SEE 1.675 Std.err, 0.248 0.063 SEE 0.423 Std.err, 0.342 0.000 0.023 Std.err, 0.342 0.002 0.044 0.001 SEE 0.420 0.025 0.025 0.000 0.006 SEE 0.428 0.025 SEE 0.428 0.025 SEE 0.428 0.025 SEE 0.428 0.025 SEE 0.428 0.025 SEE 0.428 0.428 0.428 0.428 0.428 0.420 0.424 0.420 0.424 0.428 0.428 0.428 0.420 0.428 0.448	1031 20 - 60 1-value 7.231 8.870 11.983 -2.216 df 1032 -2.216 df 1032 -2.216 df 1032 -16.627 22.614 -4.15187 1022 -15.187 1022 -15.187 1022 -7.598 -4.480 1.162 df 1032 -7.598 -7.598 -4.480 1.162 -7.598 -4.480 1.162 -7.598 -7.597 -7.598 -7.5	0.703 P 0.000 0.000 0.000 0.000 0.000 0.000 0.001 P 0.000 0.001 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.46 0.000 0.004 0.004	621 621 621 621 621 621 621 621	0.126 er Adu std.err, 0.604 0.003 0.105 0.604 0.003 0.105 SEE 1.212 std.err, 0.401 0.082 SEE 0.546 0.665 0.665 0.665 0.665 0.667 0.003 SEE r Adu 0.014 0.001	its (60) t-value 9.663 9.663 4.111 6.264 8.354 df 617 t-value 6.381 8.307 -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 -7.852 df 607 its (607 tx3ue 15.348 -0.239 2.298	0.582 + y) p 0.000 0.000 0.000 0.000 adjR2 0.000 0.0444 dagR2 0.016 0.0238 0.000 0.0195 p 0.0195 p 0.0195 p 0.0195 p 0.000 0.0195 0.0195 p 0.000 0.0195 0.0195 0.0195 0.000 0.0195 0.000 0.0195 0.000 0.0195 0.000 0.0195 0.001 0.002 0.0195 0.001 0.002 0.001 0.001 0.0195 0.002 0.001 0.002 0.001 0.002 0.001 0.002 0.002 0.001 0.002 0.0
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. 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Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. PAL-Body Mass+Sex+Age 11. PAL-In(FFM)+In(FM)			i In(Fat Ir In(Fat Ir In(Fat Ir In(Fat	ntercep Body Mi Intercep Free Mi (Fat Mi Intercep Body Mi Body Mi Intercep Free Mi Intercep Free Mi	Factors tt (MJ/d) ass (kg) Sex(M) model tt (MJ/d) ass; kg) ass; kg) sex(M) model Factors sex(M) Mage (v) model tt (MJ/d) ass (kg) model tt (MJ/d) ass; kg) model	345 345 345 0.481 0.032 0.999 0.032 0.032 0.113 N 345 8 3.330 N 338 9 0.006 0.005 0.022 N 338 JU 8 0.999 N 3.330 N 3.3437 N 3.349 N 3.385 N 3.3437 N 3.385 N 3.3437 N 3.385 N 3.3437 N 3.385 N 3.385 N 3.3437 N 3.385 N 3.385 N 3.3437 N 3.385 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.355 N 3.455 N 3.555 N N	0.137 venile: std.err, 0.237 0.005 0.152 0.022 SEE 1.275 0.231 0.062 Std.err, 0.231 0.062 0.044 0.032 0.044 0.062 0.041 SEE 0.044 0.062 0.041 0.062 0.044 0.062 0.044 0.062 std.err, 0.248 0.001 0.004 0.058 std.err, 0.129 0.046 0.0258 std.err, 0.129 0.046 0.025 0.04 0.025 0.04 0.025 0.04 0.025 0.04 0.025 0.04 0.025 0.04 0.025 0.04 0.025 0.04 0.025 0.04 0.02 0.04 0.04	situ 5 (1 - 2 2.030 6.774 6.581 5.133 <i>df</i> 341 15.776 6.51 341 15.776 4.447 15.776 9.295 2.097 9.295 2.097 0.090 0.474 <i>df</i> 333 5 (1 - 2 <u>1-value</u> 26.913 2.093 5 (1 - 2 <u>1-value</u> 3.297 5 (1 - 2 <u>1-value</u> 3.33 5 (1 - 2 <u>1-value</u> 3.33 5 (1 - 2 <u>1-value</u> 3.33 5 (1 - 2 <u>1-value</u> 3.48 4.93 3.41 5 (1 - 2 5 (1 - 2) 5 (1 -	0.033 0.043 0.043 0.000 0.000 0.000 adjR2 0.476 0.000 0.000 0.000 0.000 0.016 adjR2 0.476 0.000 0.000 0.000 0.000 0.037 0.328 0.337 0.037 0.	A B 1.822 0.023 1.308 -0.012 N 1036 -4.124 N 1036 - -4.124 N 1036 - -5.194 1.476 -0.142 N 1023 B -0.021 - -0.198 0.002 0.021 N 1023 A B 0.002 N 1023 A B 0.001 0.094 -0.017 0.0477 -0.0477 -	0.100 0.100 0.252 0.003 0.109 0.252 0.003 0.109 0.006 SEE 1.675 0.248 0.065 SEE 0.423 SEE 0.423 0.100 0.023 SEE 0.420 0.024 0.021 0.041 0.001 SEE 0.420 0.041 0.001 SEE 0.272 Stderr. 0.148 0.039 0.014 0.039 0.01 0.03 0.03 0.03 0.03 0.03 0.03 0.03	1031 20 - 660 7.231 8.870 11.983 -2.216 df 1032 2.261 df 1032 -16.627 2.2614 1032 -15.187 1020 df 1020 -15.187 1020 df 1032 -15.187 1040 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187 1050 -15.187	0.703 0.70 0.70	621 621 621 621 621 621 621 621	0.126 er Adu 3td.err. 0.604 0.003 0.105 1.212 0.401 0.007 SEE 0.401 0.0625 SEE 0.465 0.625 0.625 0.625 0.665 0.066 0.0667 0.003 SEE 0.521 er Adu 0.025 0.004 0.025 0.002 SEE 0.521 0.025 0.004 0.025 0.004 0.025 0.004 0.025 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.005 0.007 0.005 0.007 0.005 0.00700000000	oris ilts (60) t-value 9.663 4.111 6.264 4.111 6.264 4.111 6.264 4.111 6.264 617 t-value 5.724 607 ilts (60) t-value 15.348 -0.239 -4.142 df 617 t-value 5.726 5.524	0.582 + y) p 0.000 0.000 0.000 0.000 adjR2 0.010 p 0.000 0.000 0.000 0.090 0.494 adjR2 0.195 P 0.723 0.000 0.494 adjR2 0.494 adjR2 0.494 adjR2 0.494 1.002 0.494 adjR2 0.494 1.002 0.494 1.002 0.000 0.494 1.002 0.000 0.494 1.002 0.000 0.494 1.002 0.000 0.494 1.002 0.000 0.494 1.002 0.000 0.494 1.002 0.000 0.095 1.002 0.000 0.095 1.002 0.000 0.095 1.002 0.000 0.095 1.002 0.000 0.095 1.002 0.000 0.095 1.002 0.000 0.095 1.002 0.000 0.095 0.000 0.095 0.000 0.095 0.000 0.000 0.095 0.000 0.000 0.095 0.000 0.000 0.000 0.095 0.000 0.000 0.000 0.000 0.0494 1.002 0.005
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. PAL-Body Mass+Sex+Age 11. PAL-In(FFM)+In(FM)			I In(Fat Ir In(Fat Ir In(Fat Ir In(Fat Ir In(Fat	ntercep Body Ma ntercep Free M (Fat M ntercep Body Ma Body Ma Ntercep Free M ntercep	Factors t (MJ/d) ass (kg) Sex(M) Model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) ass; kg) model Factors Sex(M) Age (v) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg)	345 345 0.481 0.032 0.999 0.113 N 345 3.330 1.301 1.301 1.301 N 338 8 3.330 N 338 8 2.3.330 N 338 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 8 2.3.330 N 335 N 345 N N 345 N 345 N 345 N 345 N N N N N N N N N N N N N	0.137 venile: std.err. 0.237 0.005 0.152 0.237 0.005 0.152 SEE 1.275 0.231 0.082 SEE 0.044 0.032 0.141 SEE 0.044 0.062 0.011 SEE 0.044 0.062 0.011 SEE 0.044 SEE 0.048	situ 5 (1 - 2 - 2.030) 6,774 (5.81) 6,581 (5.133) 6,774 (6.581) 6,5133 (7) 6,5133 (7) 15,776 (6.581) 7,10366 (7) 7,2097 (7) 7,209	0.033 0.043 0.043 0.000 0.000 0.000 adjR2 0.476 0.000 0.000 0.000 0.000 0.000 0.016 adjR2 0.547 0.547 0.547 0.547 0.547 0.547 0.547 0.037 0.0547 0.037 0.0547 0.0547 0.037 0.0547 0.028 0.037 0.028	A E 1.822 0.023 1.308 -0.012 N 1036 -4.124 -0.012 N 1036 -4.124 -0.012 N 1036 -4.124 -0.012 N 1036 -5.194 -0.142 N 1023 N 1023 N 1023 -0.091 N 1036 E 0.177 -0.098 N 1036	0.100 0.100 0.100 0.252 0.003 0.109 0.252 0.003 0.109 0.248 0.065 SEE 0.423 SEE 0.423 SEE 0.423 SEE 0.423 0.100 0.024 0.014 0.001 SEE 0.420 0.014 0.001 SEE 0.420 0.018 0.001 SEE 0.420 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.018 0.029 0.024 0.029 0.044 0.001 0.028 0.029 0.044 0.001 0.028 0.02 0.02	1031 20 - 60 1-value 7.231 8.870 11.983 -2.216 df 1032 -2.216 df 1032 -2.216 df 1032 -16.627 22.614 -4.800 df 1022 -4.480 1.162 -7.598 -4.480 1.162 -7.598 -4.480 1.162 -7.598 -7	0.703 P 0.000 0.000 0.000 0.000 0.001 0.002 adjR2 0.000 0.000 adjR2 0.000 adjR2 0.000 adjR2 0.000 0.000 0.000 0.000 0.000 0.000 0.345 P 0.032 P 0.000 0.000 0.032 P 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000	621 621 621 621 621 621 621 621	0.126 er Adu std.err. 0.604 0.003 0.105 1.212 std.err. 0.401 0.008 SEE 0.546 0.062 0.625 0.165 0.0667 0.067 0.033 SEE 0.521 er Adu 0.025 0.025 0.025 0.025 0.025 0.028 9 std.err. 0.144 0.014 0.025 0.025 0.025 0.028 9 std.err. 0.289 0.025 0.025 0.028 0.027 0.028 0.027 0.027 0.028 0.027 0.027 0.028 0.027 0.028 0.027 0.0	ons ilts (60) t-value 9.663 4.111 6.264 4.111 6.264 -0.685 df 609 t-value -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 7.852 df 607 ilts (60) t-value 1.181 7.362 .2298 -4.142 df 617 t-value 5.524 617	0.582 + y) p 0.000 0.000 0.000 0.000 adjR2 0.000 p 0.000 0.000 0.000 0.000 0.000 0.494 adjR2 0.116 p 0.723 0.000 0.494 adjR2 0.116 p 0.723 0.000 0.880 0.023 0.038 0.002 0.0381 0.022 0.000 0.032 0.032 0.000 0.032 0.032 0.000 0.032 0.000 0.032 0.000 0.0381 0.002 0.032 0.000 0.032 0.002 0.002 0.000 0.032 0.002 0.002 0.002 0.000 0.023 0.002 0.002 0.002 0.000 0.023 0.002 0.002 0.002 0.002 0.000 0.038 0.002 0.000 0.002 0.002 0.000 0.002 0.002 0.000 0.002 0.000 0.000 0.000 0.002 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+A PAL (TEE/BEE) Model 10. PAL-Body Mass+Sex+Age 11. PAL-In(FFM)+In(FM)			I In(Fat Ir In(Fat Ir In(Fat Ir	ntercep Free M n(Fat M ntercep Free M n(Fat M	Factors tr (MJ/d) ass (kg) Sex(M) Age (y) model tt (MJ/d) ass; kg) ass; kg) ass; kg) model tt (MJ/d) ass; kg) model Factors tt (MJ/d) ass; kg) ass; kg) model tt (MJ/d) ass; kg) ass; kg) model tt (MJ/d) ass; kg) ass; kg) model tt (MJ/d) ass; kg)	345 345 345 0.999 0.113 N 345 2.3300 1.301 1.301 1.301 1.301 1.301 N 338 8 3.330 N 338 8 3.330 N 338 8 3.330 N 338 8 3.437 N 3.439 N 3.459 N 3.59 N	0.137 venile: std.err. 0.237 0.005 0.152 SEE 1.275 0.002 SEE 1.275 0.032 0.041 0.041 SEE 0.445 0.445 0.044 0.032 0.145 0.042 0.041 0.062 0.011 0.062 0.041 0.048 Std.err. 0.128 Std.err. 0.258 std.err. 0	situ situ	0.033 0.033 0.043 0.000 0.000 0.000 adjR2 0.476 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.037 0.028 0.636 0.547 0.928 0.636 0.547 0.000 0.037 0.028 0.636 0.547 0.020 0.000 0.028 0.022 0.415 0.000 0.022 0.425 0.000 0.022 0.425 0.000 0.027 0.025 0.	μ μ β 1.822 0.023 1.308 0.012 N 1036 β -4.124 1.476 0.412 N 1036 β -4.124 1.476 0.12 N 1026 β -5.194 1.816 -0.221 N 1023 1.038 0.002 N 1023 1.668 0.0094 -0.001 N 1036 β 0.174 -0.098 N 1036 β	0.100 0.100 0.100 0.252 0.003 0.100 0.252 0.003 0.100 0.248 0.005 SEE 0.423 SEE 0.423 SEE 0.423 0.100 0.029 0.342 0.100 0.029 0.044 0.001 SEE 0.420 0.420 0.044 0.001 SEE 0.420 0.44 0.001 SEE 0.420 SEE	1031 20 - 60 1-value 7.231 8.870 11.983 -2.216 df 1032 -2.216 df 1032 -2.216 df 1032 -1.6827 22.614 -6.130 df 1020 e -16.627 22.614 -6.130 df 1020 e -15.187 1020 e -7.598 -7.597 -7.598 -7.5	0.700 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.001 0.002 adjR2 0.000 0.000 adjR2 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.044 0.000 0.044 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040 0.040	621 621 621 621 623 624 624 624 625 60.952 70.042	0.126 er Adu std.err, 0.604 0.003 0.105 0.604 0.003 0.105 SEE 1.212 0.401 0.008 SEE 0.546 0.625 0.165 0.625 0.165 0.066 0.067 0.003 SEE er Adu std.err, 0.144 0.001 er Adu 0.002 SEE 0.025 0.022 SEE 0.025 0	ons Its (60) t-value 9.663 4.111 6.264 8.354 df 617 t-value 6.381 8.354 df 6.381 8.807 -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 -7.852 df 607 Its (60 15.348 -0.239 2.298 -4.142 df 617 t-value 5.736 3.524 -2.605 df 1-value 5.736 3.524	0.582 + y) p 0.000 0.000 0.000 0.000 adjR2 0.000 0.000 0.000 0.000 0.000 0.494 adjR2 0.116 p 0.723 0.000 0.494 adjR2 0.116 p 0.723 0.000 0.838 0.000 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.838 0.000 0.022 0.000 0.022 0.000 0.002 0.000 0.022 0.000 0.022 0.000 0.002 0.000 0.022 0.000 0.022 0.000 0.002 0.000 0.022 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+Age PAL (TEE/BEE) Model 10. PAL-Body Mass+Sex+Age 11. PAL~In(FFM)+In(FM) 12. PAL~In(FFM)+In(FM)+Sex+Age			I In(Fat Ir In(Fat Ir In(Fat Ir	ntercep Free M ntercep Free M (Fat M (Fat M (Fat M (Fat M (Fat M (Fat M	Factors t (MJ/d) ass (kg) Sex(M) Age (y) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model Factors Sex(M) Sex(M) Sex(M) Age (y) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) t (MJ	345 345 345 0.0481 0.032 0.999 0.113 N 345 3.330 1.301 1.301 1.301 1.301 N 338 § -3.330 N 338 § -3.330 N 338 § -3.330 N 338 § -3.330 N 338 § -3.330 N 338 § -3.330 N 338 § -3.330 N 338 § -0.491 N 338 § -0.491 N 338 § -0.491 N 338 § -0.491 N 338 § -0.491 N 338 § -0.491 N 338 § -0.491 N 338 § -0.495 N 338 § -0.495 N 338 § -0.495 N 338 § -0.095 N 338 -0.093 N 3.437 N -0.095 N 3.345 N -0.095 N -0.095 N -0.095 N -0.095 N -0.005 -0.012 N -0.015 N -0.05 -0.012 N -0.015	0.137 venile: std.err. 0.237 0.005 0.152 SEE 1.275 std.err. 0.231 0.041 SEE 0.445 std.err. 0.332 0.145 0.445 std.err. 0.129 0.041 SEE 0.445 std.err. 0.129 0.048 std.err. 0.129 std.err. 0	situ s (1 - 2 - salue - salu	0.033 0.033 0.033 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.016 ad/R2 0.000 0.032 0.000 0.032 0.032 0.032 0.032 0.032 0.032 0.000 0.032 0.032 0.032 0.032 0.000 0.032 0.000 0.032 0.000 0.032 0.032 0.000 0.032 0.000 0.032 0.032 0.000 0.001 0.000 0.001 0.005 0.	Instant B 1.822 0.023 1.308 -0.012 N 1036 \$\vec{4}\$ -0.112 N 1036 \$\vec{4}\$ -0.12 N 1023 \$\vec{6}\$ -0.142 N 1023 \$\vec{6}\$ -0.142 N 1023 \$\vec{6}\$ 0.002 N 1023 1023 1023 1023 1023 1.668 0.002 N 1036 \$\vec{6}\$ 0.174 0.094 0.017 0.0174 0.0174 0.028 0.744	0.100 0.100 0.100 0.252 0.003 0.100 0.252 0.003 0.100 0.262 0.423 0.006 SEE 0.423 0.002 0.248 0.023 0.100 0.029 0.423 0.100 0.029 0.423 0.100 0.029 0.423 0.100 0.029 0.423 0.100 0.029 0.423 0.100 0.029 0.423 0.100 0.021 0.044 0.001 SEE 0.423 0.044 0.	1031 20 - 660 7.231 8.870 11.983 -2.216 df 1032 2.22614 -6.130 df 1020 df 1020 df 1020 df 1020 df 1020 df 1.5.187 7.598 4.480 1.162 df 1.5.312 -1.5.607 1.5.312 -1.260 df 1.920 -6.399 df 1032 -3.714 1.2221 -3.714	0.700 P 0.000 0.000 0.000 0.000 0.000 0.000 0.001 P 0.000 0.001 P 0.000 adjR2 0.000 adjR2 0.000 adjR2 0.000 adjR2 0.000 adjR2 0.000 adjR2 0.000	621 621 621 621 625 635 635 635 745 745 745 745 745 745 745 74	0.120 0.120 0.120 0.604 0.604 0.604 0.604 0.604 0.605 0.605 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62	ons itts (60) t-value 9.663 4.111 6.264 -8.354 df 617 t-value -6.381 8.807 -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 -7.852 df 607 t-value 0.239 2.298 -4.142 df 5.736 3.524 df 5.736 3.5205 df 618 t-value 5.417	0.582 + y) p 0.000 0.000 0.000 0.000 adjR2 0.219 p 0.000 0.494 adjR2 0.116 p 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.494 0.723 0.000 0.238 0.000 0.238 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.023 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.023 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.022 0.000 0.002 0.002 0.000 0.002 0.000 0.002 0.000 0.002 0.002 0.000 0.002 0.000 0.002 0.000 0.000 0.002 0.000 0.002 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00000 0.000000 0.00000000
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Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+Age PAL (TEE/BEE) Model 10. PAL~Body Mass+Sex+Age 11. PAL~In(FFM)+In(FM) 12. PAL~In(FFM)+In(FM)+Sex+Age			I In(Fat Ir In(Fat Ir In(Fat Ir In(Fat Ir In(Fat Ir	ntercep Body Ma htercep Free M n(Fat M ntercep Free M n(Fat M ntercep Free M n(Fat M	Factors t (MJ/d) Sex(M) Age (y) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) Sex(M) Factors t (MJ/d) ass; kg) Model Factors t (MJ/d) ass; kg) model t (MJ/d) t (MJ/d)	345 345 345 0.0481 0.032 0.999 0.113 N 345 2.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.330 N 338 8 -3.437 N -0.093 0.006 N 338 -0.005 N 338 -0.005 N 338 -0.005 N 338 -0.005 N 338 -0.005 N 338 -0.005 N 338 -0.005 N 338 -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 N -0.005 -0	0.137 venile: std.err, 0.237 0.005 0.152 0.237 0.005 0.152 0.223 SEE 1.275 Std.err, 0.231 0.082 0.041 SEE 0.445 0.044 0.062 0.041 0.062 0.044 0.023 0.044 0.024 0.024 0.025 0.129 0.046 0.025 0.129 0.046 0.025 0.129 0.046 0.025 0.129 0.046 0.025 0.12 0.046 0.025 0.048 0.048 0.0	340 340 5 (1 - 22 2.030 6.774 6.581 3.6 5.133 df 3.5 5.133 df 15.776 6.581 341 5.421 15.776 2.414 df 3.52 2.093 0.090 0.0474 df 3333 6 5 (1 - 2 2.097 0.090 0.474 df 3.333 df 3.333 df 3.252 8.348 0.817 3.252 8.348 0.374 df 3.42 1.414	0.033 0.043 0.043 0.000 0.000 0.000 ad/R2 0.476 0.000 0.000 0.000 0.016 ad/R2 0.550 0.000 0.000 0.000 0.037 0.328 0.337 0.037 0.	IO30 A ĝ 1.822 0.023 1.308 4.124 N 1036 4 4.124 N 1023 8 -5.194 1.816 0.021 -0.198 0.021 N 1023 A § 1.668 0.001 N 1036 § 0.021 N 1023 A 1.668 0.001 N 1036 § -0.774 0.174 0.172	0.100 0.100 0.100 0.252 0.003 0.109 0.252 0.003 0.109 0.006 SEE 0.423 0.023 SEE 0.423 0.029 0.044 0.001 0.028 SEE 0.420 0.029 0.044 0.001 0.028 SEE 0.272 SId.err. 0.200 0.018 0.009 0.018 0.009 0.018 0.009 0.018 0.009 0.018 0.029 0.044 0.009 0.018 0.00 0 0.00 0 0.00 0 0 0.00 0 0 0 0 0	1031 20 - 60 1-value 7.231 8.870 11.983 -2.216 df 1032 -2.216 df 1032 -6.130 df 1020 -6.130 df 1020 -15.187 12.261 4.480 1.168 20 - 60 1.178 10.32 df 1032 -1.220 df 1032 -1.220 df 1032 -1.220 df 1032 -1.220 df 1032 -1.220 df 1032 -1.220 df 1.180 -1.5187	0.700 0.700 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000	621 621 621 621 625 635 635 635 635 635 635 635 63	0.126 0.126 0.604 0.604 0.603 0.604 0.003 0.105 1.212 0.504 0.007 0.007 SEE 0.546 0.665 0.665 0.665 0.665 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.066 0.0 0.0	oris Its (60) 1-value 9.663 4.111 6.264 4.111 6.264 4.111 6.264 6.354 df 6.354 df 0.6855 df 0.0685 4.018 0.070 Ivalue 0.355 4.088 0.151 1.181 -7.852 df 607 Its (60 15.348 -0.239 2.298 -4.142 df 617 Ivalue 5.736 3.524 -2.605 df 618 Ivalue 5.417 1.814 -2.405 0.007	0.382 + y) p 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.0494 adjR2 0.328 0.494 adjR2 0.494 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+Age 9. In(AEE)~In(FFM)+In(FM)+Sex+Age 10. PAL~Body Mass+Sex+Age 11. PAL~In(FFM)+In(FM) 12. PAL~In(FFM)+In(FM)+Sex+Age			I In(Fat Ir In(Fat Ir In(Fat Ir In(Fat Ir In(Fat Ir	ntercep Body Mi Intercep Free Mi (Fat Mi Intercep Free Mi (Fat Mi Intercep Free Mi (Fat Mi	Factors tt (MJ/d) ass (kg) Sex(M) model tt (MJ/d) ass; kg) ass; kg) model Factors Sex(M) Age (v) model Factors (MJ/d) ass (kg) Sex(M) Age (v) model tt (MJ/d) ass; kg) Sex(M) Age (v) model tt (MJ/d) ass; kg) Sex(M) Age (v) model Sex(M) Age (v) Sex(M) Age (v) Sex(M) Age (v) Sex(M) Age (v) Sex(M) S	345 345 345 0.322 0.999 0.032 0.999 N 345 8 3.330 1.301 1.301 0.099 N 338 8 3.437 1.349 0.006 0.006 0.0050 0.0026 N 338 JU 8 0.050 0.050 0.050 0.026 N 345 8 0.338 0.056 0.038 0.038 0.038 0.338 0.008 0.008 0.038 0.038 0.008	0.137 venile: std.err, 0.237 0.005 0.152 0.022 SEE 1.275 0.231 0.022 SEE 0.044 0.032 0.044 0.062 0.041 SEE 0.044 0.062 0.044 0.062 0.044 0.062 0.044 0.062 0.044 0.062 0.044 0.062 0.044 0.062 0.044 0.063 0.06 0.06 0.06 0.06 0.06 0.06 0.0	situ s (1 - 2 2.030 6.774 6.581 341 15.776 6.583 df 341 15.776 6.583 df 341 15.776 9.295 2.097 0.090 0.474 df 333 5 (1 - 2 1.583 df 15.783 df 15.785 5 (1 - 2 1.583) 15.785 15.7	0.033 0.043 0.043 0.000 0.000 0.000 adjR2 0.476 0.000 0.000 0.000 0.000 0.000 0.016 adjR2 0.547 0.328 0.337 0.037 0.037 0.037 0.037 0.037 0.037 0.032 0.234 P 0.000 0.032 0.263 P 0.000 0.332 0.263 2 0.263 0.263 0.263 0.332 0.263 0.332 0.334 0.332 0.332 0.334 0.332 0.334	A B 1.822 0.023 1.308 0.012 1.308 0.012 N 1036 4.124 1.476 1.4124 N 10235 1.4124 N 1023 1.021 -0.142 N 1023 1.023 N 1023 N 1036 B 0.777 0.164 0.777 0.164 0.777 0.164 0.777 0.164 0.777 0.164	0.100 0.100 0.100 0.252 0.003 0.109 0.262 0.003 0.109 0.006 SEE 0.423 SEE 0.423 0.100 0.023 SEE 0.420 0.44 0.001 0.041 0.059 0.420 0.459 0.459 0.459 0.459 0.459 0.459 0.459 0.459 0.450 0.45 0.45	1031 20 - 660 11.983 2.216 df 1032 2.216 df 1032 2.643 df 1020 df 1018 20 - 66 1032 1.160 df 1032 1.2201 df 1032 1.2201 1.3140 9.442 0.739 df 1033 1.2211 3.3140 9.442 0.74 1033 1.221 1.220 1.3140 9.442 0.48 0 0.487 1.3140 9.442 0.48 0 0.487 1.3140 0.487 1.3140 0.487 1.3140 0.487 1.3140 0.487 1.42 0.487 0.	0.700 0.700 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000	621 621 621 621 621 621 621 621	0.126 0.126 0.604 0.604 0.603 0.604 0.003 0.105 0.604 0.007 SEE 1.212 0.401 0.062 SEE 0.546 0.662 0.662 0.662 0.662 0.667 0.003 0.625 0.665 0.667 0.521 0.625 0.665 0.667 0.003 0.062 0.521 0.62 0.521 0.62 0.521 0.62 0.521 0.62 0.521 0.62 0.521 0.62 0.521 0.62 0.62 0.62 0.62 0.62 0.62 0.62 0.62	oris Its (60) t-value 9.663 4.111 6.264 -8.354 df 617 t-value -0.685 df 609 t-value -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 -7.852 df 607 Its (60) t-value 15.348 -0.239 -4.142 df 617 t-value 5.736 3.524 -2.405 0.007 -3.818	0.582 + y) p 0.000 0.000 0.000 0.000 0.000 adjR2 0.019 0.494 adjR2 0.195 + y) p 0.032 0.032 0.032 r 4.019 0.032 0
Activity Expenditure (AEE) Model 7. AEE-Body Mass+Sex+Age 8. In(AEE)~In(FFM)+In(FM) 9. In(AEE)~In(FFM)+In(FM)+Sex+Age PAL (TEE/BEE) Model 10. PAL-Body Mass+Sex+Age 11. PAL~In(FFM)+In(FM) 12. PAL~In(FFM)+In(FM)+Sex+Age			I In(Fat Ir In(Fat Ir In(Fat Ir In(Fat Ir	ntercep Body Ma (Fat M (Fat M ntercep Free M n(Fat M (Fat M n(Fat M n(Fat M	Factors t (MJ/d) ass (kg) Sex(M) Model model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model ass; kg) model t (MJ/d) ass; kg) model ass; kg) model t (MJ/d) ass; kg) model ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) model t (MJ/d) ass; kg) ass; kg) asg; kg)	345 345 0.0481 0.032 0.999 0.113 N 345 3.300 1.301 0.099 N 338 8 3.330 N 338 8 2.3300 N 338 8 2.3437 1.349 0.006 0.006 0.000 0.050 0.0386 0.0386 0.0386 0.0386 0.0386 0.0386 0.0388 0.	0.137 venile: std.err. 0.237 0.005 0.152 0.237 0.005 0.152 SEE 1.275 2.525 std.err. 0.231 0.082 0.044 SEE 0.044 0.032 0.145 0.044 SEE 0.446 0.032 0.145 0.044 SEE 0.446 0.031 0.048 SEE 0.446 0.031 0.048 SEE 0.048 SE 0	situ s (1 - 2 2.030 6.774 6.581 341 15.776 6.583 df 341 15.776 6.583 df 2.431 df 335 5 (1 - 2 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.933 df 1.641 4.934 2.097 0.090 0.909 0.909 0.909 0.909 0.909 0.909 0.909 1.641 4.933 df 1.641 4.932 1.641 4.934 2.097 0.090 0.909 0.909 0.909 0.909 1.641 4.933 df 1.641 4.933 df 1.641 4.934 2.0817 df 3.1641 4.9342 1.641 4.9342 1.641 4.934 2.0817 df 3.1641 4.9342 1.641 4.934 1.641 1.6	0.033 0.043 0.043 0.000 0.000 0.000 adjR2 0.476 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.037 0.547 0.547 0.547 0.547 0.547 0.547 0.000 0.037 0.037 0.037 0.028 0.037 0.037 0.037 0.037 0.038 0.030 0.038 0.030 0.038 0.030 0.030 0.038 0.	A B 1.822 0.023 1.308 0.012 1.308 0.012 N 1036 4.124 1.476 1.4124 1.476 1.4124 1.476 1.4124 1.476 1.425 1.412 1.426 1.428 0.142 N 1.023 1.668 0.001 N 1.023 A § 0.174 0.034 0.0477 1.0366 1.0477 0.1744 0.1744 0.0104 N	0.100 0.100 0.100 0.252 0.003 0.109 0.252 0.003 0.109 0.268 SEE 0.423 SEE 0.423 SEE 0.423 SEE 0.423 SEE 0.420 0.004 0.018 SEE 0.420 0.018 SEE 0.420 0.014 SEE 0.420 0.014 SEE 0.420 0.014 SEE 0.420 0.059 0.017 0.267 0.420 0.059 0.017 0.267 0.420 0.059 0.017 0.267 0.420 0.059 0.017 0.267 0.420 0.059 0.017 0.267 0.420 0.059 0.017 0.26 0.059 0.017 0.267 0.267 0.267 0.267 0.267 0.267 0.267 0.267 0.26 0.059 0.017 0.26 0.059 0.017 0.26 0.001 SEE	1031 20 - 60 1-value 7.231 8.870 11.983 -2.216 df 1032 2.216 df 1032 2.216 4.820 df 1020 df 1022 2.614 4.820 df 1022 2.614 4.820 df 1022 2.658 5.312 1.2221 1.2221 4.820 df 1033 1.2221 1.2221 4.820 df 1032 1.2221 1.2	0.700 0.700 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.046 0.0345 b b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0345 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.0367 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b 0.037 b	621 621 621 621 621 621 621 621	0.126 er Adu std.err, 0.604 0.003 0.105 0.604 0.007 SEE 1.212 0.401 0.007 SEE 0.546 0.667 0.003 SEE 0.546 0.667 0.003 SEE 0.521 er Adu std.err, 0.144 0.001 std.err, 0.144 std.err, 0.144 std.err, 0.144 0.001 std.err, 0.144 std	oris ilts (60) t-value 9.663 4.111 6.264 -8.354 df 617 t-value 0.355 4.088 -0.685 df 609 t-value 0.355 4.088 -0.151 1.181 607 ilts (60) t-value 5.348 -0.239 2.298 -4.142 df 617 t-value 5.736 3.524 -2.605 df 618 t-value 5.417 1.814 -2.405 0.007 -3.818	0.582 + y) p 0.000 0.000 0.000 0.000 adjR2 0.010 p 0.000 0.000 0.000 0.000 0.494 adjR2 0.116 p 0.023 0.023 0.038 0.039 0

		Adjust	ed TE	E - Fer	nale &	Male	Cohor	s				Adjus	ted BE	E and A	djuste	d BE	ETEE			
						Adjus	ted TEE						Adjust	ed BEE			Ad	justeo	ВЕЕте	E
Age		N	mear	n Age	F			M	N		mean	Age		F	M		F		M	
Cohort	F	M	F	М	mean	sd	mean	sd	F	М	F	М	mean	sd	mean	sd	mean	sd	mean	sd
(0,0.5]	103	93	0.2	0.2	120.0	23.2	118.4	23.2	22 (1	11)*	0.	2		100.47	33.89		ε	36.03	28.9	
(0.5,1]	18	23	0.7	0.7	139.8	17.0	145.5	25.7	20 (8	8)*	0.	9		142.89	11.62		1:	15.47	9.2	
(1,2]	33	35	1.7	1.6	147.4	23.9	148.2	21.6	18 (8	86)*	1.	6		142.02	13.52		1:	11.94	9.6	
(2,4]	54	48	3.8	3.8	147.0	13.4	150.3	19.6	3	1	3.8	4.0	150.2	6.0	144.3	NA	108.6	7.4	100.7	NA
(4,6]	99	121	5.3	5.3	142.5	14.0	148.2	18.5	9	5	5.7	5.4	156.4	26.3	158.8	30.9	110.1	19.9	108.1	19.9
(6,8]	42	42	7.0	7.2	139.2	16.7	143.2	13.6	18	12	7.2	7.4	136.9	25.8	141.9	21.8	94.6	17.7	94.6	15.1
(8,10]	79	75	9.1	9.1	132.8	19.2	140.2	18.7	22	16	9.2	9.5	130.0	23.4	137.3	21.8	87.2	15.2	88.8	14.2
(10,12]	68	34	11.1	11.0	122.0	23.4	133.4	16.3	5	5	11.1	11.1	128.3	19.9	126.3	21.2	82.6	12.3	81.8	15.0
(12,16]	229	128	14.4	14.5	113.1	22.9	118.9	21.4	18	16	14.4	13.9	103.1	18.6	130.0	23.3	64.9	12.2	82.4	15.7
(16,20]	209	103	18.3	18.4	107.1	14.4	113.3	17.1	155	148	18.5	18.9	97.5	12.9	109.3	7.5	60.2	8.1	62.9	5.3
(20,25]	252	123	23.2	23.5	100.6	15.5	106.7	21.9	135	116	23.4	23.8	98.3	10.5	99.6	8.1	60.6	7.1	57.0	5.2
(25,30]	280	182	27.8	28.0	100.5	15.3	102.0	21.2	115	104	27.9	27.9	100.8	11.5	104.0	13.4	62.5	7.8	59.6	8.3
(30,35]	235	146	33.0	32.8	100.0	11.9	100.7	16.5	96	94	33.2	33.1	98.7	9.7	103.3	10.4	60.9	6.3	59.7	7.0
(35,40]	231	165	38.0	38.0	100.0	11.9	102.3	16.3	112	110	38.1	38.2	99.7	10.2	101.6	11.7	61.4	6.9	59.1	7.2
(40,45]	301	165	42.8	42.9	101.3	12.6	100.8	13.2	100	96	42.9	42.6	99.8	10.4	102.9	9.1	61.6	6.9	59.7	6.1
(45,50]	171	144	47.4	47.8	102.0	12.4	100.5	14.3	42	41	47.3	48.1	99.0	14.7	108.1	14.6	61.4	9.6	62.7	8.9
(50,55]	105	93	52.8	52.6	100.5	11.4	100.8	13.2	33	33	53.1	53.4	96.1	9.1	103.1	9.2	59.8	5.5	60.3	5.9
(55,60]	111	76	58.2	57.8	102.2	11.7	102.9	20.0	23	23	58.1	57.5	100.3	9.5	100.0	7.1	62.5	6.1	57.9	4.5
(60,65]	252	90	63.2	63.2	98.8	12.4	99.8	15.3	23	21	62.4	63.1	99.5	12.8	99.2	8.5	62.6	8.3	58.3	5.2
(65,70]	387	90	68.0	68.0	97.6	10.9	94.4	11.1	40	40	68.0	68.7	91.0	8.6	95.2	7.6	56.9	5.9	56.4	4.8
(70,80]	681	232	75.1	75.4	93.9	12.1	90.6	14.6	188	173	75.2	75.4	86.8	9.9	86.4	12.9	55.2	6.6	51.5	8.0
(80,90]	149	66	83.6	84.2	87.6	12.2	82.8	13.0	47	38	84.1	84.0	86.5	16.0	78.6	10.8	55.3	10.8	47.6	6.8
(90,100]	22	8	94.4	94.0	73.2	12.4	76.0	9.6	14	5	94.9	94.0	91.2	19.1	94.8	14.6	57.1	12.9	57.3	8.6

Table S3. Adjusted total expenditure (TEE), Adjusted basal expenditure (BEE), and Adjusted BEE_{TEE}. *Infant data from the literature, males and females pooled. N values for infant BEE (0 to 2 years) indicate number of entries and (number of individuals).

902 Table S4. Segmented Regression Analyses

adjTEE	Segme	nts			Break Poir	nts	
	beta	SE	CI_lower	Cl_upper	Estimate	CI_lower	Cl_upper
	84.70	7.15	70.69	98.71	0.69	0.61	0.76
	-2.77	0.07	-2.91	-2.63	20.46	19.77	21.15
	-0.02	0.02	-0.07	0.03	62.99	60.13	65.85
	-0.68	0.06	-0.79	-0.57			
adjBEE	Segme	nts			Break Poir	nts	
	beta	SE	CI_lower	Cl_upper	Estimate	CI_lower	Cl_upper
	75.51	5.59	64.55	86.46	1.04	0.94	1.14
	-3.75	0.22	-4.17	-3.33	18.00	16.82	19.18
	0.02	0.05	-0.07	0.12	46.46	40.57	52.35
	-0.45	0.04	-0.53	-0.37			