

SUPPLEMENTARY DATA

**Supplementary Table 1.** Means and standard deviations for adiposity and type 2 diabetes precursors in 2017 children.

	All participants (n = 2017)		Boys (n = 955)		Girls (n = 1062)		P value*
	Mean/Geometric mean	SD/IQR	Mean/Geometric mean	SD/IQR	Mean/Geometric mean	SD/IQR	
Insulin resistance	0.89	0.70	0.80	0.70	0.98	0.70	<0.0001
HbA1c (%) (mmol/mol)	5.27 (34)	0.40 (4)	5.27 (34)	0.40 (4)	5.27 (34)	0.40 (4)	0.70
Glucose (mmol/L)	4.46	0.50	4.49	0.40	4.42	0.40	<0.0001
Fat mass index (kg/m <sup>5</sup> )	1.86	1.22	1.76	1.07	1.95	1.31	<0.0001
Energy (kcal)	1,844	497	1,877	510	1,814	483	0.002
Energy density (kJ/g)	7.0	1.6	7.1	1.6	6.9	1.6	0.01
Fat % energy	34.3	6.4	34.2	6.5	34.4	6.3	0.19
Saturated fat % energy	12.7	3.4	12.6	3.4	12.7	3.5	0.13
Monounsaturated fat % energy	11.4	2.8	11.5	2.9	11.3	2.8	0.32
Polyunsaturated fat % energy	6.5	3.0	6.4	3.0	6.7	3.0	0.02
Carbohydrate % energy	52.0	6.8	52.1	6.9	52.0	6.7	0.70
Sugars % energy	22.4	7.0	22.4	7.1	22.4	6.9	0.76
Starch, Dextrins % energy	29.2	6.2	29.2	6.4	29.2	6.1	0.42
Total Non-starch polysaccharides(g)	11.9	4.7	11.8	4.9	11.9	4.6	0.59
Protein % energy	13.3	3.3	13.4	3.3	13.3	3.2	0.26
Vitamin B12 (µg)	3.7	2.5	3.8	2.9	3.5	2.1	0.10
Folate (µg)	217	87	219	88	215	86	0.88
Vitamin C (mg)	107.6	78.7	106.0	79.4	109.0	78.1	0.11
Calcium (mg)	786	337	791	338	782	335	0.15
Iron (mg)	9.4	3.3	9.7	3.4	9.2	3.2	0.06

Means and standard deviations (SD) are based on raw data. All metabolic risk markers are log transformed; geometric means and interquartile ranges (IQR) are given for these variables. P values are adjusted for age in quartiles, month, ethnic subgroup and school (random effects), plus day, diet interviewer for dietary variables, plus total energy for micronutrients. P value\* depicts no difference.

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**Supplementary Table 2.** Ethnic differences in type 2 diabetes risk markers: effect of adjustment for energy intake (excluding implausible reporters).

Metabolic risk markers	Adjustments	South Asian - white European			Black African Caribbean - white European		
		% change	95% CI	P value*	% change	95% CI	P value*
Insulin resistance	Standard *	37.02	(26.07, 48.92)	<0.0001	7.68	(-0.88, 16.98)	0.08
	Standard plus energy (kcal)	35.78	(24.92, 47.58)	<0.0001	7.72	(-0.87, 17.05)	0.08
	Standard plus energy (kcal) allowing for error	33.19	(21.85, 45.59)	<0.0001	7.65	(-1.07, 17.13)	0.09
HbA1c (%)	Standard *	2.00	(1.24, 2.76)	<0.0001	1.53	(0.84, 2.23)	<0.0001
	Standard plus energy (kcal)	1.97	(1.21, 2.73)	<0.0001	1.53	(0.84, 2.23)	<0.0001
	Standard plus energy (kcal) allowing for error	1.85	(1.06, 2.64)	<0.0001	1.53	(0.85, 2.20)	<0.0001
Glucose (mmol/L)	Standard *	0.91	(0.00, 1.83)	0.05	-	(-1.77, 0.01)	0.06
	Standard plus energy (kcal)	0.84	(-0.06, 1.76)	0.07	-	(-1.77, 0.00)	0.05
	Standard plus energy (kcal) allowing for error	0.63	(-0.40, 1.66)	0.23	-	(-1.78, -0.01)	0.05

\*Coefficients and confidence intervals (CI) adjusted for age in quartiles, gender, month, height, with clustering for school (robust SEs). All metabolic risk markers are log transformed. P value\* depicts no difference.