

Supplementary Table 1. Interaction tests between BMI measures, ethnicity, and sex on cardiometabolic risk factors.

Values represent p-values derived from multivariable linear regression models. Models for BMI z-score interactions use continuous data, while BMI category interactions compare healthy weight, overweight, and obesity.

Outcome	BMI z-score x Ethnicity	BMI category x Ethnicity	BMI z-score x Ethnicity x Sex
SBP	0.251	<0.001	0.055
DBP	0.195	<0.001	0.674
HbA1c	0.032	<0.001	0.908
Non-HDLc	0.208	<0.001	0.738
Triglycerides	0.385	<0.001	0.626

Supplementary Table 2. Summary of cardiometabolic risk factors stratified by sex and ethnicity.

Data are presented as mean (SD) or median (IQR). Comparisons between boys and girls within ethnic groups were performed using t-tests or Mann-Whitney U tests. Sample sizes vary between outcomes due to availability of blood pressure and blood biomarker measurements.

Outcome	All			White			South Asian		
	Boys	Girls	p-value	Boys	Girls	p-value	Boys	Girls	p-value
	n=3 576	n=3 391		n=1 451	n=1 296		n=2 125	n=2 099	
SBP (mmHg)	108.5 (11.5)	107.5 (11.6)	<0.001	108.3 (11.1)	107.7 (11.4)	0.147	108.7 (11.8)	107.3 (11.7)	<0.001
DBP (mmHg)	67.4 (10.4)	67.5 (10.4)	0.421	66.0 (10.6)	66.4 (10.4)	0.380	68.2 (10.2)	68.3 (10.4)	0.952
	n=1 066	n=947		n=320	n=306		n=746	n=641	
HbA1c (mmol/mol)	35.85 (2.93)	35.84 (3.77)	0.964	34.55 (2.45)	34.50 (3.17)	0.849	36.39 (2.95)	36.46 (3.87)	0.705
Non-HDLc (mmol/L)	2.77 (0.65)	2.83 (0.69)	0.047	2.67 (0.60)	2.82 (0.68)	0.003	2.81 (0.67)	2.83 (0.69)	0.601
Triglycerides (mmol/L)	0.95 (0.69, 1.37)	1.06 (0.77, 1.47)	<0.001	0.93 (0.66, 1.22)	1.09 (0.77, 1.48)	<0.001	0.98 (0.69, 1.46)	1.04 (0.76, 1.45)	0.051