

Supplementary Data

Supplementary Table S1. Demographic, Anthropometric, and Laboratory Differences Between Metabolic Phenotypes by Degree of Obesity

Total N=362	Insulin sensitive overweight/ obese (HOMA-IR <2.6) N=157		Insulin resistant overweight/ obese (HOMA-IR ≥2.6) N=205		p value
	Overweight N=48	Obese N=109	Overweight N=41	Obese N=164	
Age, years	8.9 ± 1.7 ^{a,b}	8.4 ± 1.5 ^{c,e}	10.5 ± 1.4 ^{a,c,d}	9.7 ± 1.6 ^{b,d,e}	< 0.001
Sex (% females)	31 (65)	41 (38)	23 (56)	92 (56)	0.004
Race/ethnicity, n (%)					0.07
Black	8 (17)	19 (17)	3 (7)	35 (21)	
Hispanic	36 (75)	86 (79)	33 (80)	114 (70)	
Other	4 (8)	4 (4)	5 (12)	15 (9)	
Pubertal staging*					0.001
Prepubertal (Tanner stage 1)	16 (70)	64 (82)	8 (30)	44 (47)	
Early pubertal (Tanner stage 2 and 3)	7 (30)	12 (15)	17 (63)	49 (53)	
Late pubertal (Tanner stage 4 and 5)	0	2 (3)	2 (7)	0	
Height, cm	136.1 ± 11.8 ^{a,b,c}	134.9 ± 9.2 ^{b,d,e}	145.6 ± 9.8 ^{a,d}	144.9 ± 11.1 ^{c,e}	< 0.001
Weight, kg	39.3 ± 9.8 ^{a,b,c}	45.3 ± 10.5 ^{b,e}	47.9 ± 8.4 ^{a,d}	59.7 ± 15.3 ^{c,d,e}	< 0.001
BMI, kg/m ²	20.9 ± 1.8 ^{a,b}	24.6 ± 3.17 ^{a,c,e}	22.4 ± 1.7 ^{c,d}	28 ± 4.1 ^{b,d,e}	< 0.001
BMI z-score	1.40 ± 0.21 ^{a,b}	2.10 ± 0.28 ^{a,c,e}	1.40 ± 0.19 ^{c,d}	2.20 ± 0.29 ^{b,d,e}	< 0.001
Waist circumference, cm	72.3 ± 7.5 ^{a,b,c}	78.4 ± 8.2 ^{b,e}	78.1 ± 6.1 ^{a,d}	89 ± 10.7 ^{c,d,e}	< 0.001
SBP, mm Hg	101 ± 8 ^a	104 ± 9 ^c	105 ± 8 ^b	110 ± 12 ^{a,b,c}	< 0.001
DBP, mm Hg	57 ± 5 ^a	59 ± 5 ^b	57 ± 6	60 ± 6 ^{a,b}	0.003
Light PA, min	448 ± 106	432 ± 93	432 ± 130	418 ± 107	0.48
MVPA, min	78 ± 46	83 ± 51 ^{a,b}	50 ± 28 ^a	61 ± 40 ^b	< 0.001
Sedentary activity, min	419 ± 114	443 ± 112	486 ± 132	465 ± 109	0.06
TGs, mg/dL**	60 (41, 78)	66 (48, 92)	76 (56, 98)	88 (60, 117)	< 0.001
HDL-C, mg/dL	50 ± 10 ^a	47 ± 9 ^b	47 ± 8	44 ± 9 ^{ab}	< 0.001
Fasting plasma glucose, mg/dL	82 ± 8 ^{a,b}	81 ± 10 ^{c,d}	89 ± 8 ^{a,c}	88 ± 8 ^{b,d}	< 0.001
Fasting Insulin, u/L**	8.3 (5.6, 10.6)	9.3 (7.4, 11.3)	17.8 (15.3, 21.5)	20.6 (16.2, 28.5)	< 0.001
hs-CRP, mg/dL**	0.9 (0.4, 1.5)	1.6 (0.7, 3.9)	0.7 (0.5, 2.1)	2.2 (1.1, 5.5)	< 0.001
ALT, U/L	21 ± 9	26 ± 23	23 ± 7	28 ± 16	0.086
PNFI	2.08 (0.63, 4.61)	5.85 (3.55, 8.64)	3.5 (1.82, 4.95)	8.89 (6.95, 9.74)	< 0.001
Albumin/creatinine ratio	24 ± 111	16 ± 35	8.4 ± 13.7	16.1 ± 50.1	0.423

All values are presented as mean ± standard deviation, unless otherwise indicated.

*Pubertal staging was available for 221 (61%) participants.

**Median (interquartile range).

SBP, systolic blood pressure; DBP, diastolic blood pressure; PA, physical activity; MVPA, moderate-to-vigorous physical activity; TGs, triglycerides; HDL-C, high-density lipoprotein-cholesterol; hs-CRP, high-sensitivity C-reactive protein; ALT, alanine aminotransferase; PNFI, pediatric NAFLD fibrosis index; HOMA-IR, homeostatic model assessment for insulin resistance.

Same superscript letters indicate a significant difference between those subgroups.