

**Supplementary Table 2. Linear regression of the relationship between z-score for percentage of appendicular skeletal muscle mass and metabolic syndrome indices based on BMI z-score**

	Total			Boys			Girls		
	$\beta$	SE	P-value	$\beta$	SE	P-value	$\beta$	SE	P-value
PsiMS									
BMI z-score <2	-0.080	0.016	<0.001	-0.124	0.022	<0.001	-0.037	0.015	0.017
BMI z-score $\geq$ 2	-0.135	0.046	0.004	-0.130	0.096	0.176	-0.128	0.058	0.029
Multivariate model	-0.017	0.015	0.232	-0.029	0.023	0.203	-0.004	0.016	0.791
HOMA-IR*									
BMI z-score <2	-0.079	0.014	<0.001	-0.093	0.021	<0.001	-0.063	0.020	0.001
BMI z-score $\geq$ 2	0.060	0.056	0.289	0.103	0.109	0.348	0.066	0.068	0.331
Multivariate model	-0.005	0.015	0.757	-0.012	0.022	0.579	-0.007	0.020	0.731
TyG index*									
BMI z-score <2	-0.011	0.002	<0.001	-0.014	0.004	<0.001	-0.006	0.003	0.011
BMI z-score $\geq$ 2	-0.009	0.009	0.323	-0.014	0.011	0.216	-0.014	0.010	0.183
Multivariate model	-0.005	0.002	0.033	-0.007	0.004	0.076	-0.002	0.003	0.295

The asterisk (\*) indicates the variable that was log-transformed for the analysis and expressed as geometric mean.

Linear regression analysis was calculated after adjustment for age, sex, household income (quintile), and daily energy intake. The multivariate model was analyzed after adjustment for age, sex, household income (quintile), daily energy intake, and BMI z-score.

BMI, body mass index; HOMA-IR, the homeostasis model assessment of insulin resistance; PsiMS, pediatric simple metabolic syndrome score; SE, standard error; TyG index, triglyceride glucose index.

**Supplementary Table 3. Logistic regression of the relationship between z-score for percentage of appendicular skeletal muscle mass and metabolic syndrome indices based on BMI z-score**

	Total	Boys	Girls
	aOR (95% CI)	aOR (95% CI)	aOR (95% CI)
Metabolic syndrome			
BMI z-score <2	0.38 (0.28-0.52)	0.31 (0.19-0.49)	0.44 (0.26-0.73)
BMI z-score $\geq$ 2	1.25 (0.60-2.61)	0.59 (0.14-2.48)	1.53 (0.36-6.54)
Insulin resistance			
BMI z-score <2	0.57 (0.46-0.71)	0.47 (0.30-0.74)	0.65 (0.51-0.82)
BMI z-score $\geq$ 2	1.03 (0.49-2.17)	1.28 (0.21-8.03)	1.27 (0.57-2.84)

Logistic regression analysis was calculated after adjustment for age, sex, household income (quintile), and daily energy intake.

aOR, adjusted odds ratio; BMI, body mass index; CI, confidence interval; HOMA-IR, the homeostasis model assessment of insulin resistance; PsiMS, pediatric simple metabolic syndrome score; TyG index, triglyceride glucose index.