

**Supplementary file 2, Table S4.** ANOVA results of adjusted association analysis between the overall activity spectrum composition and BMI z-score in all participants.

	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p</b>
Overall activity spectrum composition	138.04	8	11.85	<b>&lt; 0.001</b>
SES	14.10	9	1.08	0.38
Sex	15.46	1	10.62	<b>0.001</b>
Age-centred	0.04	1	0.03	0.86
Accelerometer model	2.72	2	0.94	0.30
Recording frequency	0.58	1	0.40	0.53
Residuals	2081.80	1430		

Notes. SES = socioeconomic status.

**Supplementary file 2, Table S5.** ANOVA results of adjusted association analysis between the overall activity spectrum composition and BMI z-score in boys.

	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p</b>
Overall activity spectrum composition	63.07	8	4.97	<b>&lt;0.001</b>
SES	7.28	9	0.51	0.87
Age-centred	0.03	1	0.02	0.89
Accelerometer model	7.81	2	2.46	0.09
Recording frequency	4.48	1	2.82	0.09
Residuals	955.37	602		

Notes. SES = socioeconomic status.

**Supplementary file 2, Table S6.** ANOVA results of adjusted association analysis between the overall activity spectrum composition and BMI z-score in girls.

	<b>Sum of Squares</b>	<b>df</b>	<b>F</b>	<b>p</b>
Overall activity spectrum composition	103.15	8	9.59	<b>&lt;0.001</b>
SES	13.83	9	1.14	0.33
Age-centred	0.05	1	0.03	0.85
Accelerometer model	0.21	1	0.15	0.69
Recording frequency	0.49	1	0.37	0.54
Residuals	1086.15	808		

Notes. SES = socioeconomic status.