

Table S4. Results of meta-regression showing the associations of all study characteristics combined with the *FTO*×PA interaction effect on BMI in adults.

Study characteristic	Effect *	P
Sample size	+	0.41
Proportion of inactive individuals, %	+	0.56
Mean BMI, kg/m ²	-	0.99
Gender <i>Male (0) vs. female (1)</i>	+	0.44
Age group <i><60 yrs (0) vs. ≥60 yrs (1)</i>	-	0.93
Study design <i>population- or family-based (0), vs. case-control (1)</i>	-	0.63
Ethnicity <i>White (0) vs. African American (1)</i>	+	0.51
Ethnicity <i>White (0) vs. Asian (1)</i>	-	0.87
Ethnicity <i>White (0) vs. Hispanic (1)</i>	-	0.30
Geographic region <i>Europe (0) vs. North America (1)</i>	+	0.001
Geographic region <i>Europe (0) vs. Asia (1)</i>	+	0.75
Measurement of PA <i>PA variable categorical (0) vs. continuous (1)</i>	+	0.77
Measurement of PA, <i>Leisure-time PA only (0) vs. leisure-time and occupational PA (1)</i>	+	0.22
Measurement of PA, <i>Questionnaire-based (0) vs. objective (1)</i>	+	0.77

The results are for a meta-regression model where all the listed covariates were entered into the model simultaneously. Ethnicity and geographic region were entered into the model as indicator ('dummy') variables.

* Effect (+) indicates that an increase in the covariate value resulted as a stronger interaction between rs9939609 and PA (i.e. physically active individuals had a stronger attenuation in the association of rs9939609 risk allele with BMI), whereas effect (-) indicates the opposite.