

Supplementary Table 3. Scale for Quality Assessment of genetic association studies.

Criteria	Low quality	Intermediate quality	High quality
Gene-diet or gene-physical exercise interaction as primary study goal	No = -1	Not known = 0	Yes = 1
Formal test for interaction	No = -1	Not known or stratified analysis = 0	Yes = 1
Correction for multiple testing	No = -1	Not known = 0	Yes or not necessary = 1
Correction for population stratification/ethnicity	No = -1	Not known = 0	Yes or not applicable = 1
Hardy-Weinberg equilibrium	No or not stated = -1	Not known = 0	Yes = 1
Group similarity at baseline tested		Not known = 0	Yes = 1
Power analysis and sample size	≤65 = -1	65-322=0	>322 or power analysis is provided (>80%) = 1
Sufficient details of study procedure stated	No = -1	-	Yes = 1

*the cut offs used to define low, intermediate and high sufficiency of sample size were based on the 15th (n=65) and 75th percentile (n=322) of the sample size of the studies included.

Supplementary Table 4. Risk of bias assessment outcomes for all studies reviewed according to Scale for Quality Assessment of genetic association studies.

Article	Gene-diet or gene-physical exercise interaction as primary study goal	Formal test for interaction	Correction for multiple testing	Correction for population stratification/ethnicity	Hardy-Weinberg equilibrium	Group similarity at baseline tested	Power analysis and sample size	Sufficient details of study procedure stated	Score
Goni et al., 2018	1	1	0	1	1	1	1	1	7
de Luis et al, 2018b	1	1	1	1	1	1	1	1	8
Zhang et al., 2012	1	1	-1	1	1	1	1	1	6
Heianza et al., 2018	1	1	0	1	1	1	1	1	7
de Luis et al., 2020	1	1	0	0	1	1	1	1	6
de Luis et al, 2020	1	1	1	0	1	1	1	1	7
Sun et al., 2018	1	1	1	0	0	1	1	1	6
Lin et al., 2015	1	1	1	1	1	1	1	1	8
Chmurzynska et al, 2019	1	1	-1	1	0	1	0	1	4
Grau K et al., 2010	1	1	1	1	1	1	1	1	8
Cameron et al., 2013	1	1	-1	0	1	1	0	1	4
Franks et al., 2007	1	1	1	1	1	1	1	1	8
Ramos-Lopez et al., 2019	1	1	1	1	1	1	1	1	8
Heianza et al., 2016	1	1	0	1	1	1	1	1	7
Hamada et al., 2010	1	1	0	0	1	1	0	1	5
Izaola Jáuregui et al., 2020	1	1	0	0	1	1	1	1	6
Rajkumar et al., 2016	1	1	0	1	1	1	0	1	6
Tchernof et al., 2000	1	1	1	0	0	1	0	1	5
de Luis et al, 2018c	1	1	0	1	1	1	1	1	7
de Luis et al., 2015b	1	1	0	1	1	1	1	1	7
de Luis et al, 2015a	1	1	0	0	1	1	1	1	6
Abete et al, 2009	1	1	1	0	1	1	1	1	7
Di Renzo et al, 2013	1	1	1	0	0	1	0	1	4
de Luis et al, 2018a	1	1	1	0	1	1	1	1	7
Thamer et al., 2008	1	1	1	1	0	0	0	1	5

