

Supplementary Table SI. Effect estimates from forward MR analyses for BMI, WC, and BFP with various subtypes of HL

Exposure	Outcome	Method	OR	or_lci95	or_uci95	pval	Phet
BMI	ARHI	IVW	0.999	0.972	1.027	0.944	0.011
BMI	SNHL	IVW	1.098	0.949	1.270	0.208	0.052
BMI	SIHL	IVW	1.085	0.728	1.618	0.685	0.271
WC	ARHI	IVW	0.990	0.953	1.029	0.636	4.09E-09
WC	SNHL	IVW	0.832	0.718	0.965	0.015	0.143
WC	SIHL	IVW	1.195	0.773	1.847	0.422	0.175
BFP	ARHI	IVW	0.952	0.926	0.979	0.000	2.14E-22
BFP	SNHL	IVW	0.953	0.843	1.078	0.450	0.000
BFP	SIHL	IVW	1.186	0.857	1.641	0.300	0.644

Supplementary Table SII. Effect estimates from reverse MR analyses for ARHI, SNHL, and SIHL with body constitution

Exposure	Outcome	Method	OR	or_lci95	or_uci95	pval	Phet
ARHI	BMI	IVW	1.573	0.76285099	3.2445445	0.21981598	3.56E-115
SNHL	BMI	IVW	1.015	0.99541635	1.03562653	0.13226479	0.32049778
SIHL	BMI	IVW	1.002	0.99439973	1.01124814	0.51588358	0.67508781
ARHI	WC	IVW	0.855	0.67638618	1.08202577	0.19283464	0.00013836
SNHL	WC	IVW	1.008	0.98507866	1.03166061	0.49365711	0.18241553
SIHL	WC	IVW	0.988	0.97847534	0.99725396	0.01150298	0.90451968
ARHI	BFP	IVW	1.041	0.86754245	1.24922524	0.66547293	5.01E-126
SNHL	BFP	IVW	1.000	0.99323795	1.007287	0.94708911	3.12E-24
SIHL	BFP	IVW	0.999	0.99606293	0.9997438	0.02559435	0.09882313

Supplementary Table SIII. Effect estimates from reverse MR sensitivity analyses for ARHI, SNHL and SIHL with body constitution

Exposure	Outcome	Method	SNPs	OR	OR_lci95	OR_uci95	<i>p</i> val	p_pleiotropy	int
BMI	ARHI	MR Egger	65	1.02432107	0.94524081	1.11001731	0.55983339	0.518234794	-0.0007254
BMI	ARHI	Weighted median	65	1.02826514	0.99265607	1.06515158	0.12112205	NA	NA
BMI	ARHI	Inverse variance weighted	65	0.99901811	0.97193868	1.02685201	0.94414048	NA	NA
BMI	ARHI	Simple mode	65	1.02218448	0.95945053	1.08902032	0.49957807	NA	NA
BMI	ARHI	Weighted mode	65	1.03517969	0.98630478	1.08647653	0.16599612	NA	NA
BMI	SNHL	MR Egger	67	0.85708414	0.5567947	1.31932509	0.48594788	0.235869588	0.00706425
BMI	SNHL	Weighted median	67	1.00214025	0.82283037	1.22052506	0.9830417	NA	NA
BMI	SNHL	Inverse variance weighted	67	1.0981781	0.9490288	1.27076769	0.20856427	NA	NA
BMI	SNHL	Simple mode	67	0.88974271	0.62046712	1.27588081	0.52747802	NA	NA
BMI	SNHL	Weighted mode	67	0.92578319	0.69725191	1.22921787	0.59571725	NA	NA
BMI	SIHL	MR Egger	67	0.42863913	0.13358571	1.37538295	0.15918196	0.101688141	0.02651199
BMI	SIHL	Weighted median	67	0.88779095	0.49354877	1.59695013	0.69112544	NA	NA
BMI	SIHL	Inverse variance weighted	67	1.08589351	0.7287004	1.61817493	0.68555601	NA	NA
BMI	SIHL	Simple mode	67	1.2630211	0.34908939	4.56966714	0.72304533	NA	NA
BMI	SIHL	Weighted mode	67	0.92966871	0.33503077	2.57971503	0.88904623	NA	NA
WC	ARHI	MR Egger	60	0.99652796	0.85079869	1.16721851	0.96575555	0.940862471	-0.0001537
WC	ARHI	Weighted median	60	0.97217904	0.934501	1.01137622	0.16178797	NA	NA
WC	ARHI	Inverse variance weighted	60	0.99073954	0.95326883	1.02968313	0.63623755	NA	NA
WC	ARHI	Simple mode	60	0.96871367	0.87994024	1.06644307	0.51937599	NA	NA
WC	ARHI	Weighted mode	60	0.96110997	0.89032597	1.03752154	0.31364794	NA	NA

WC	SNHL	MR Egger	64	0.66554964	0.34894276	1.26942401	0.22117433	0.486601102	0.00584998
WC	SNHL	Weighted median	64	0.86478013	0.69953201	1.06906427	0.17935264	NA	NA
WC	SNHL	Inverse variance weighted	64	0.83297182	0.71834985	0.96588321	0.01553886	NA	NA
WC	SNHL	Simple mode	64	0.78365584	0.48032517	1.27854318	0.3327363	NA	NA
WC	SNHL	Weighted mode	64	0.91134874	0.57223693	1.4514207	0.69713942	NA	NA
WC	SIHL	MR Egger	64	4.4663804	0.68459858	29.1390524	0.12290658	0.161850885	-0.0343701
WC	SIHL	Weighted median	64	0.88800565	0.47635673	1.65538554	0.70855734	NA	NA
WC	SIHL	Inverse variance weighted	64	1.1951904	0.77317986	1.84753919	0.42232932	NA	NA
WC	SIHL	Simple mode	64	0.30477742	0.04960037	1.87275373	0.20430201	NA	NA
WC	SIHL	Weighted mode	64	0.30477742	0.05031155	1.84628119	0.20079399	NA	NA
BFP	ARHI	MR Egger	332	1.11964641	1.02515379	1.2228488	0.01247324	0.000183919	-0.0023206
BFP	ARHI	Weighted median	332	0.97846595	0.94568064	1.01238788	0.21058796	NA	NA
BFP	ARHI	Inverse variance weighted	332	0.95261125	0.92607254	0.97991049	0.00075772	NA	NA
BFP	ARHI	Simple mode	332	0.99735787	0.862154	1.15376455	0.97162624	NA	NA
BFP	ARHI	Weighted mode	332	1.03380805	0.91884201	1.16315871	0.5807818	NA	NA
BFP	SNHL	MR Egger	372	0.88041755	0.59073812	1.3121467	0.531972	0.679475198	0.00114128
BFP	SNHL	Weighted median	372	0.98645965	0.8329977	1.16819368	0.87443846	NA	NA
BFP	SNHL	Inverse variance weighted	372	0.95383148	0.84364089	1.0784144	0.45043499	NA	NA
BFP	SNHL	Simple mode	372	1.16384443	0.67748298	1.99936221	0.58292453	NA	NA
BFP	SNHL	Weighted mode	372	1.16384443	0.70926676	1.90976644	0.54855415	NA	NA
BFP	SIHL	MR Egger	372	1.23765198	0.43185087	3.54701713	0.69166236	0.934612869	-0.000598
BFP	SIHL	Weighted median	372	1.32951663	0.79236844	2.2307987	0.28075312	NA	NA
BFP	SIHL	Inverse	372	1.18679879	0.85797916	1.64163819	0.30084382	NA	NA

		variance weighted							
BFP	SIHL	Simple mode	372	1.29032067	0.26525251	6.27676401	0.75233107	NA	NA
BFP	SIHL	Weighted mode	372	1.0454825	0.35575085	3.07246959	0.93558913	NA	NA

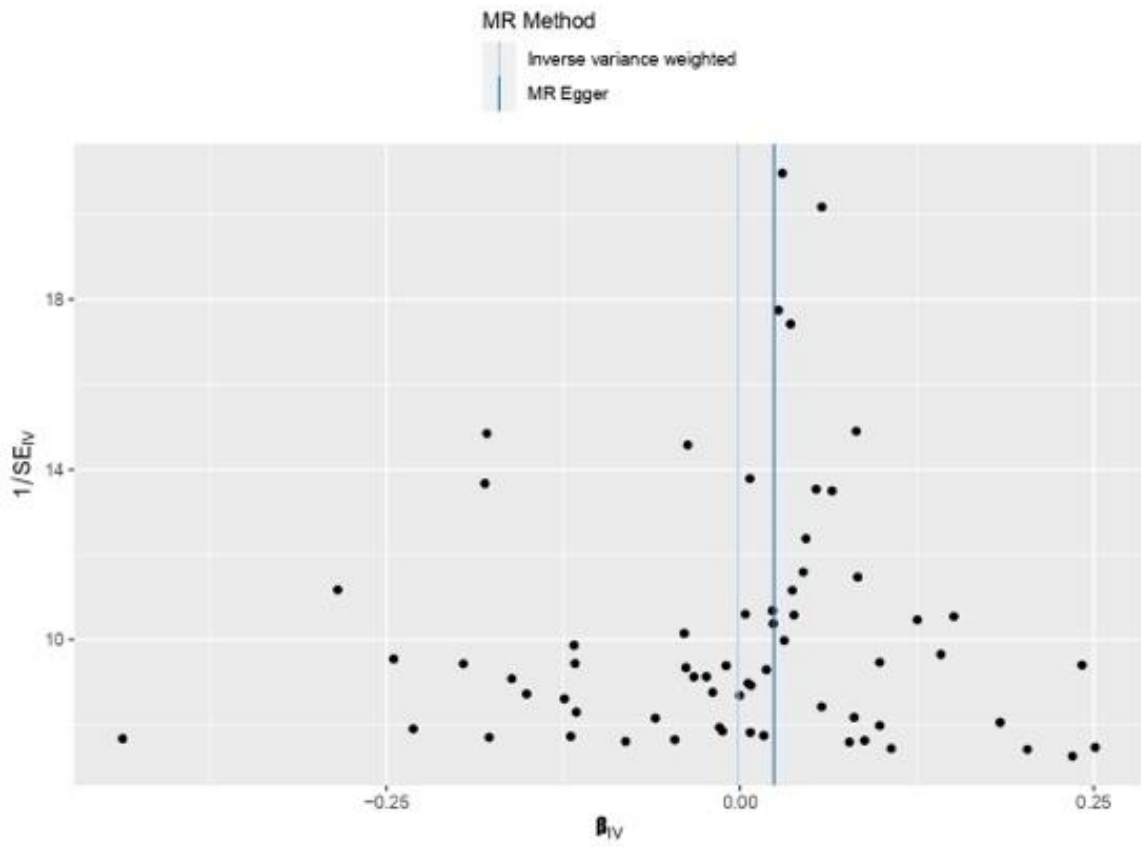
Supplementary Table SIV. Effect estimates from forward MR sensitivity analyses for BMI, WC and BFP with various HL

Exposure	Outcome	Method	SNPs	or	or_lci95	or_uci95	pval	p_pleiotropy	int
ARHI	BMI	MR Egger	18	0.137498331	0.003243364	5.829069322	0.314759477	0.2125514	0.03879973
ARHI	BMI	Weighted median	18	1.071664718	0.897344247	1.279849146	0.444780499	NA	NA
ARHI	BMI	Inverse variance weighted	18	1.573246325	0.762850993	3.244544504	0.219815977	NA	NA
ARHI	BMI	Simple mode	18	1.121676476	0.849635387	1.480821229	0.429012159	NA	NA
ARHI	BMI	Weighted mode	18	1.10600134	0.867270054	1.410447597	0.427948175	NA	NA
SNHL	BMI	MR Egger	51	1.04352046	0.972382619	1.119862623	0.24268837	0.4318961	-0.002049
SNHL	BMI	Weighted median	51	1.015596713	0.987200647	1.044809571	0.284774423	NA	NA
SNHL	BMI	Inverse variance weighted	51	1.0153224	0.995416349	1.035626526	0.132264792	NA	NA
SNHL	BMI	Simple mode	51	0.99252792	0.930522705	1.05866484	0.820668475	NA	NA
SNHL	BMI	Weighted mode	51	0.999558982	0.941740099	1.060927702	0.988480725	NA	NA
SIHL	BMI	MR Egger	29	0.995416208	0.972421228	1.018954955	0.703043339	0.51286906	0.0017841
SIHL	BMI	Weighted median	29	1.000258738	0.988158752	1.012506889	0.966767559	NA	NA
SIHL	BMI	Inverse variance weighted	29	1.00278855	0.994399732	1.011248138	0.51588358	NA	NA
SIHL	BMI	Simple mode	29	0.99777449	0.976899252	1.019095808	0.837869996	NA	NA
SIHL	BMI	Weighted mode	29	0.998324202	0.978360192	1.018695589	0.871894229	NA	NA
ARHI	WC	MR Egger	17	1.150090473	0.321729562	4.11124202	0.832541471	0.64954353	-0.0046917
ARHI	WC	Weighted median	17	0.915064771	0.737269788	1.135735586	0.420666203	NA	NA
ARHI	WC	Inverse variance weighted	17	0.855492421	0.676386184	1.082025772	0.192834638	NA	NA

ARHI	WC	Simple mode	17	0.970096196	0.692680421	1.358615894	0.861987894	NA	NA
ARHI	WC	Weighted mode	17	0.899310792	0.672713992	1.202234396	0.484006286	NA	NA
SNHL	WC	MR Egger	51	0.981567292	0.903610957	1.066249077	0.661398257	0.51347278	0.00199185
SNHL	WC	Weighted median	51	1.003574795	0.971504866	1.036703369	0.829492271	NA	NA
SNHL	WC	Inverse variance weighted	51	1.008100616	0.985078661	1.031660609	0.493657114	NA	NA
SNHL	WC	Simple mode	51	0.992539378	0.921432346	1.069133747	0.844278694	NA	NA
SNHL	WC	Weighted mode	51	0.989339433	0.930811592	1.051547404	0.73192653	NA	NA
SIHL	WC	MR Egger	29	0.986970599	0.96091647	1.013731154	0.345152919	0.94673963	0.00020731
SIHL	WC	Weighted median	29	0.988760225	0.976516932	1.001157022	0.075387689	NA	NA
SIHL	WC	Inverse variance weighted	29	0.987820029	0.978475341	0.997253961	0.011502978	NA	NA
SIHL	WC	Simple mode	29	0.990278606	0.965863333	1.015311052	0.44950592	NA	NA
SIHL	WC	Weighted mode	29	0.988772089	0.966168343	1.011904655	0.346761783	NA	NA
ARHI	BFP	MR Egger	30	0.753136468	0.368446689	1.539475199	0.443543449	0.36646421	0.00560583
ARHI	BFP	Weighted median	30	0.964798189	0.913933357	1.018493897	0.194681969	NA	NA
ARHI	BFP	Inverse variance weighted	30	1.041035984	0.867542448	1.249225236	0.66547293	NA	NA
ARHI	BFP	Simple mode	30	0.954905293	0.860674464	1.059452971	0.391180407	NA	NA
ARHI	BFP	Weighted mode	30	0.976140795	0.893503765	1.066420635	0.596675908	NA	NA
SNHL	BFP	MR Egger	127	1.00130231	0.988857973	1.013903255	0.838707819	0.84037973	-0.0001253
SNHL	BFP	Weighted median	127	0.999781651	0.992867027	1.00674443	0.950824298	NA	NA
SNHL	BFP	Inverse variance weighted	127	1.00023781	0.993237947	1.007287004	0.947089111	NA	NA

SNHL	BFP	Simple mode	127	0.989321308	0.971942353	1.007011009	0.237327928	NA	NA
SNHL	BFP	Weighted mode	127	1.000481429	0.989490744	1.011594192	0.93207681	NA	NA
SIHL	BFP	MR Egger	80	0.995980423	0.993039788	0.998929767	0.009231656	0.10844509	0.00089839
SIHL	BFP	Weighted median	80	0.9983219	0.995585495	1.001065826	0.230405767	NA	NA
SIHL	BFP	Inverse variance weighted	80	0.997901664	0.996062928	0.999743795	0.025594352	NA	NA
SIHL	BFP	Simple mode	80	0.994870598	0.988645973	1.001134415	0.112276535	NA	NA
SIHL	BFP	Weighted mode	80	0.997461721	0.99342087	1.001519008	0.223419302	NA	NA

Supplementary Figure S1. Funnel plot for MR analysis of age-related hearing impairment and body mass index



Supplementary Figure S2. Leave-one-out analysis for age-related hearing impairment liability and body mass index

