Supplemental Data

Title: Polygenic risk score for predicting weight loss after bariatric surgery

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Table S1. List of 191 BMI-associated SNPs

SNP	Minor allele	Major allele	MAF	HWE P-value	GWAS P-value	Ref
rs1000940	G	A	0.31	0.525	$1.3x10^{-8}$	1
rs10132280	A	C	0.28	0.933	$1.1x10^{-11}$	1
rs10182181	G	A	0.46	0.732	$8.8x10^{-24}$	1
rs10733682	A	G	0.47	0.680	$1.8x10^{-8}$	1
rs10938397	G	A	0.46	0.086	$3.2x10^{-38}$	1
rs10968576	G	A	0.33	0.589	$6.6x10^{-14}$	1
rs11030104	G	A	0.19	0.444	$5.6x10^{-28}$	1
rs11057405	A	G	0.09	0.194	$2.0x10^{-8}$	1
rs11126666	A	G	0.25	0.145	$1.3x10^{-9}$	1
rs11165643	C	T	0.43	0.577	$2.1x10^{-12}$	1
rs11170468	C	A	0.25	0.366	$7.0x10^{-8}$	1
rs11191560	C	T	0.07	0.275	$8.5x10^{-9}$	1
rs11583200	C	T	0.40	0.317	$1.5x10^{-8}$	1
rs1167827	A	G	0.41	0.009	$6.3x10^{-10}$	1
rs11688816	G	A	0.50	0.679	$1.9x10^{-8}$	1
rs11727676	C	T	0.10	0.428	$2.6x10^{-8}$	1
rs11847697	T	C	0.05	1.000	$4.0x10^{-9}$	1
rs12286929	A	G	0.45	0.302	$1.3x10^{-12}$	1
rs12401738	A	G	0.35	0.653	$1.2x10^{-10}$	1
rs12429545	A	G	0.12	0.267	$1.1x10^{-12}$	1
rs12446632	A	G	0.15	0.602	$1.5x10^{-18}$	1
rs12566985	G	A	0.42	0.121	$3.3x10^{-15}$	1
rs12885454	A	C	0.33	0.590	$1.9x10^{-10}$	1
rs12940622	A	G	0.41	0.004	$2.5x10^{-9}$	1
rs13021737	A	G	0.17	0.903	$1.1x10^{-50}$	1
rs13078960	G	T	0.22	0.198	$1.7x10^{-14}$	1
rs13107325	T	C	0.09	0.543	$1.8x10^{-12}$	1
rs13191362	G	A	0.12	0.204	$7.3x10^{-9}$	1
rs13201877	G	A	0.13	1.000	$4.3x10^{-8}$	1
rs1441264	G	A	0.39	0.086	$3.0x10^{-8}$	1
rs1516725	T	C	0.13	1.000	$1.9x10^{-22}$	1
rs1528435	C	T	0.38	0.612	$1.2x10^{-8}$	1
rs1558902	A	T	0.49	0.101	$7.5x10^{-153}$	1
rs16851483	T	G	0.07	0.439	$3.6x10^{-10}$	1
rs16907751	T	C	0.10	0.274	$3.9x10^{-8}$	1
rs16951275	C	T	0.23	0.284	$1.9x10^{-17}$	1
rs17001654	G	C	0.19	0.821	$7.8x10^{-9}$	1
rs17024393	C	T	0.02	1.000	$7.0x10^{-14}$	1
rs17094222	C	T	0.20	0.196	$5.9x10^{-11}$	1
rs17203016	G	A	0.19	0.660	$3.4x10^{-8}$	1
rs17405819	C	T	0.27	0.221	$2.1x10^{-11}$	1
rs17724992	G	A	0.23	0.848	$3.4x10^{-8}$	1
rs1808579	T	C	0.43	0.330	$4.2x10^{-8}$	1
rs1928295	C	T	0.44	0.729	7.9x10	1
rs2033529	G	A	0.27	0.345	$1.4x10^{-10}$	1
rs2033732	T	C	0.23	0.631	$4.9x10^{-8}$	1
rs205262	G	A	0.30	0.935	$1.8x10^{-10}$	1
rs2075650	G	A	0.13	0.763	$1.3x10^{-8}$	1
rs2080454	C	A	0.36	0.603	$8.6x10^{-9}$	1
rs2112347	G	T	0.36	0.233	$6.2x10^{-17}$	1
rs2121279	T	C	0.10	0.700	$2.3x10^{-8}$	1
rs2176040	A	G	0.36	0.767	$1.0x10^{-8}$	1
rs2176598	T	C	0.27	0.170	$3.0x10^{-8}$	1
rs2207139	G	A	0.18	0.486	$4.1x10^{-29}$	1
rs2245368	G	A	0.19	0.265	$3.2x10^{-8}$	1
rs2287019	T	C	0.14	0.407	$4.6x10^{-18}$	1
rs2365389	T	C	0.41	0.007	$1.6x10^{-10}$	1
rs2820292	A	C	0.44	0.783	$1.8x10^{-10}$	1
rs2836754	T	C	0.35	0.407	$1.6x10^{-8}$	1
rs29941	A	G	0.31	0.149	$2.4x10^{-8}$	1
rs3101336	T	C	0.32	0.938	$2.7x10^{-26}$	1
rs3736485	A	G	0.49	0.682	$7.4x10^{-9}$	1
rs3810291	G	A	0.33	0.877	$4.8x10^{-15}$	1

rs3817334	T	C	0.44	0.890	$5.2x10^{-17}$	1
rs3849570	A	C	0.35	0.330	$2.6x10^{-8}$	1
rs3888190	A	C	0.39	0.072	$3.1x10^{-23}$	1
rs4256980	C	G	0.38	0.052	$2.9x10^{-11}$	1
rs4740619	C	T	0.43	0.714	$4.6x10^{-9}$	1
rs4787491	G	A	0.50	0.220	$2.7x10^{-8}$	1
rs492400	C	T	0.43	0.403	$6.8x10^{-9}$	1
rs543874	G	A	0.23	0.923	$2.6x10^{-35}$	1
rs6091540	T	C	0.27	0.931	$2.2x10^{-11}$	1
rs6465468	T	G	0.37	0.822	$5.0x10^{-8}$	1
rs6477694	C	T	0.33	0.700	$2.7x10^{-8}$	1
rs6567160	C	T	0.29	0.502	$3.9x10^{-53}$	1
rs657452	A	G	0.41	0.776	$5.5x10^{-13}$	1
rs6804842	A	G	0.41	0.291	$2.5x10^{-9}$	1
rs7138803	A	G	0.38	0.043	$8.2x10^{-24}$	1
rs7141420	C	T	0.46	0.731	$1.2x10^{-14}$	1
rs7164727	C	T	0.31	0.335	$3.9x10^{-9}$	1
rs7239883	G	A	0.40	0.887	$1.5x10^{-8}$	1
rs7243357	G	T	0.14	0.162	$3.9x10^{-8}$	1
rs758747	T	C	0.30	0.935	$7.5x10^{-10}$	1
rs7599312	A	G	0.22	0.766	$1.2x10^{-10}$	1
rs7715256	G	T	0.43	0.021	$8.9x10^{-9}$	1
rs7899106	G	A	0.05	0.132	$3.0x10^{-8}$	1
rs7903146	T	C	0.34	0.646	$1.1x10^{-11}$	1
rs9374842	G	A	0.23	0.241	$2.7x10^{-8}$	1
rs9400239	T	C	0.31	0.573	$1.6x10^{-8}$	1
rs9540493	A	G	0.41	0.049	$5.0x10^{-8}$	1
rs9581854	T	C	0.20	0.069	$2.3x10^{-10}$	1
rs9641123	C	G	0.46	0.945	$2.1x10^{-10}$	1
rs977747	T	G	0.40	0.620	$2.2x10^{-8}$	1
rs9914578	G	C	0.19	0.660	$2.1x10^{-8}$	1
rs9925964	G	A	0.37	0.826	$8.1x10^{-10}$	1
rs10838738	G	A	0.37	0.883	$5.0x10^{-9}$	2
rs11084753	A	G	0.34	1.000	$2.0x10^{-8}$	2
rs17782313	C	T	0.29	0.505	$5.0x10^{-18}$	2
rs6548238	T	C	0.17	0.904	$1.0x10^{-18}$	2
rs7498665	G	A	0.39	0.062	$5.0x10^{-11}$	2
rs9939609	A	T	0.47	0.034	$4.0x10^{-51}$	2
rs10150332	C	T	0.22	0.427	$3.0x10^{-11}$	3
rs10767664	T	A	0.19	0.664	$5.0x10^{-26}$	3
rs12444979	T	C	0.16	0.602	$3.0x10^{-21}$	3
rs13078807	G	A	0.22	0.197	$4.0x10^{-11}$	3
rs1555543	A	C	0.43	0.402	$4.0x10^{-10}$	3
rs206936	G	A	0.22	0.368	$3.0x10^{-8}$	3
rs2241423	A	G	0.23	0.203	$1.0x10^{-18}$	3
rs2444217	G	A	0.40	0.670	$9.0x10^{-8}$	3
rs2815752	G	A	0.32	0.938	$2.0x10^{-22}$	3
rs2867125	T	C	0.17	0.902	$3.0x10^{-49}$	3
rs2890652	C	T	0.15	0.228	$1.0x10^{-10}$	3
rs2922763	G	T	0.28	$4.6x10^{-06}$	$6.0x10^{-8}$	3
rs3764400	C	T	0.14	0.773	$4.0x10^{-7}$	3
rs4771122	G	A	0.26	0.032	$9.0x10^{-10}$	3
rs4836133	G	T	0.47	$1.2x10^{-06}$	$2.0x10^{-9}$	3
rs4929949	C	T	0.49	0.306	$3.0x10^{-9}$	3
rs571312	A	C	0.28	0.309	$6.0x10^{-42}$	3
rs713586	C	T	0.46	0.836	$6.0x10^{-22}$	3
rs7359397	T	C	0.39	0.073	$2.0x10^{-20}$	3
rs867559	G	A	0.18	0.819	$1.0x10^{-7}$	3
rs887912	T	C	0.27	0.603	$2.0x10^{-12}$	3
rs9816226	A	T	0.17	0.458	$2.0x10^{-18}$	3
rs13130484	T	C	0.46	0.099	$6.0x10^{-9}$	4
rs1514175	A	G	0.41	0.078	$3.0x10^{-11}$	4
rs1561288	T	C	0.22	1.000	$5.0x10^{-8}$	4
rs7234864	T	C	0.32	0.695	$4.0x10^{-17}$	4
rs9940128	A	G	0.50	0.152	$4.0x10^{-23}$	4
rs10993160	G	A	0.04	0.621	$6.0x10^{-7}$	5

rs12149832	A	G	0.49	0.115	$5.0x10^{-22}$	5
rs13034723	A	G	0.42	0.361	$2.0x10^{-8}$	5
rs2206734	T	C	0.18	0.061	$1.0x10^{-11}$	5
rs2331841	A	G	0.49	0.339	$2.0x10^{-11}$	5
rs4377469	G	T	0.11	0.860	$2.0x10^{-7}$	5
rs516636	A	C	0.23	0.923	$3.0x10^{-9}$	5
rs10913469	C	T	0.22	0.554	$6.0x10^{-8}$	6
rs12970134	A	G	0.31	0.422	$1.0x10^{-12}$	6
rs6265	T	C	0.17	0.718	$5.0x10^{-10}$	6
rs6499640	G	A	0.37	0.558	$4.0x10^{-13}$	6
rs7561317	A	G	0.17	0.903	$4.0x10^{-17}$	6
rs7647305	T	C	0.20	0.518	$7.0x10^{-11}$	6
rs925946	T	G	0.32	0.309	$9.0x10^{-10}$	6
rs7202116	G	A	0.47	0.028	$2.0x10^{-10}$	7
rs10136789	C	T	0.12	0.509	$5.0x10^{-7}$	8
rs12964056	T	C	0.28	0.797	$7.0x10^{-7}$	8
rs1542829	A	G	0.07	0.305	$1.0x10^{-8}$	8
rs8050136	A	C	0.47	0.047	$1.0x10^{-7}$	8
rs8192472	T	C	0.39	$2.8x10^{-09}$	$1.0x10^{-6}$	8
rs1121980	A	G	0.50	0.133	$4.0x10^{-8}$	9
rs1106683	A	G	0.13	0.662	$1.0x10^{-7}$	10
rs1426654	G	A	0.01	0.002	$4.0x10^{-7}$	11
rs3096490	A	G	0.36	0.882	$5.0x10^{-7}$	11
rs955423	C	A	0.45	0.240	$3.0x10^{-7}$	11
rs2275215	C	T	0.28	0.611	$4.0x10^{-7}$	12
rs17124318	G	C	0.05	1.000	$6.0x10^{-7}$	13
rs3934834	T	C	0.15	0.594	$6.0x10^{-7}$	14
rs4432245	C	T	0.04	0.387	$1.0x10^{-6}$	15
rs11142387	A	C	0.46	0.837	$3.0x10^{-8}$	16
rs11191580	C	T	0.07	0.275	$4.0x10^{-8}$	16
rs11671664	A	G	0.08	0.007	$3.0x10^{-12}$	16
rs12229654	.	T	0.00	1.000	$5.0x10^{-9}$	16
rs12463617	A	C	0.17	1.000	$2.0x10^{-12}$	16
rs12597579	T	C	0.05	1.000	$6.0x10^{-7}$	16
rs16858082	C	T	0.40	0.176	$4.0x10^{-9}$	16
rs2237892	T	C	0.06	1.000	$9.0x10^{-13}$	16
rs2531995	C	T	0.36	0.141	$7.0x10^{-8}$	16
rs2535633	G	C	0.43	0.296	$2.0x10^{-10}$	16
rs261967	C	A	0.38	0.885	$8.0x10^{-13}$	16
rs4776970	T	A	0.34	0.287	$3.0x10^{-7}$	16
rs574367	T	G	0.23	0.924	$2.0x10^{-19}$	16
rs591166	A	T	0.49	0.193	$7.0x10^{-14}$	16
rs6545814	G	A	0.43	1.000	$1.0x10^{-10}$	16
rs671	.	G	0.00	1.000	$3.0x10^{-11}$	16
rs6893807	G	A	0.19	0.909	$1.0x10^{-6}$	16
rs9356744	C	T	0.30	0.463	$5.0x10^{-13}$	16
rs9473924	T	G	0.25	0.787	$4.0x10^{-7}$	16
rs11075990	G	A	0.47	0.023	$2.0x10^{-51}$	17
rs2030323	A	C	0.19	0.743	$6.0x10^{-10}$	17
rs2568958	G	A	0.32	1.000	$2.0x10^{-14}$	17
rs2903492	G	A	0.16	0.805	$6.0x10^{-15}$	17
rs633715	C	T	0.23	1.000	$5.0x10^{-12}$	17
rs8089364	C	T	0.30	0.412	$4.0x10^{-21}$	17
rs987237	G	A	0.19	0.743	$2.0x10^{-11}$	17
rs62033400	C	T	0.47	0.047	$2.0x10^{-14}$	18
rs939583	C	T	0.16	1.000	$1.0x10^{-7}$	18
rs10261878	A	C	0.04	0.193	$1.0x10^{-10}$	19
rs17817964	A	G	0.47	0.034	$1.0x10^{-10}$	19
rs348495	A	G	0.40	0.117	$2.0x10^{-10}$	19
rs7586879	T	C	0.32	0.640	$4.0x10^{-8}$	19
rs7708584	A	G	0.43	0.025	$5.0x10^{-14}$	19
rs652722	T	C	0.24	0.710	$8.0x10^{-8}$	20

A total of 167 significant BMI-associated SNPs ($P<5\times10^{-8}$) and 24 SNPs near-significant BMI-associated ($P<1\times10^{-6}$) were selected from 15 previous GWAS (1–15) and 5 GWAS meta-analysis (16–20). SNP: single nucleotide polymorphism. Ref points to the original study reference. MAF: minor allele frequency in the cohort of 860 bariatric patients. HWE P-value: Hardy Weinberg equilibrium P-value. GWAS P-value: original P-value of association with BMI. Grey-shaded SNPs were excluded based on HWE or MAF criteria.

Table S2. List of 186 SNPs in PRS_{186}

SNP	Reported gene	Position	Minor allele	Major allele	X^2 (P-value)	OR (95% CI)
rs1000940	RABEP1	17:5223976	G	A	0.10 (0.75)	0.94 (0.66-1.35)
rs10132280	STXBP6	14:24998019	A	C	0.02 (0.89)	1.03 (0.72-1.47)
rs10136789	KCNH5	14:62889535	C	T	0.38 (0.54)	0.87 (0.55-1.36)
rs10150332	NRXN3	14:79470621	C	T	2.60 (0.11)	0.73 (0.50-1.07)
rs10182181	ADCY3	2:25003800	G	A	1.04 (0.31)	0.82 (0.55-1.20)
rs10261878	MIR148A	7:25910925	A	C	0.05 (0.81)	0.92 (0.47-1.82)
rs10733682	LMX1B	9:128500735	A	G	0.26 (0.61)	0.90 (0.61-1.34)
rs10767664	BDNF	11:27704439	T	A	8.44 (0.00)	0.54 (0.36-0.82)
rs10838738	MTCH2	11:47641497	G	A	0.35 (0.55)	0.90 (0.62-1.29)
rs10913469	RASAL2	1:177944384	C	T	0.23 (0.64)	0.91 (0.63-1.32)
rs10938397	GNPDA2	4:44877284	G	A	3.06 (0.08)	1.44 (0.96-2.17)
rs10968576	LINGO2	9:28404339	G	A	0.49 (0.48)	0.88 (0.61-1.26)
rs10993160	ZNF169	9:94306644	G	A	0.31 (0.58)	0.81 (0.39-1.70)
rs11030104	BDNF	11:27641093	G	A	7.33 (0.01)	0.57 (0.38-0.86)
rs11057405	CLIP1	12:121347850	A	G	0.69 (0.41)	1.21 (0.77-1.92)
rs1106683	intergenic	7:131768766	A	G	0.87 (0.35)	1.21 (0.81-1.82)
rs11075990	FTO	16:53785981	G	A	1.22 (0.27)	1.26 (0.84-1.89)
rs11084753	KCTD15	19:33831232	A	G	2.67 (0.10)	1.36 (0.94-1.97)
rs11126666	KCNK3	2:26782315	A	G	0.00 (0.96)	1.01 (0.70-1.45)
rs11142387	KLF9	9:70383416	A	C	2.50 (0.11)	0.74 (0.50-1.08)
rs11165643	PTBP2	1:96696685	C	T	0.00 (0.98)	1.00 (0.68-1.46)
rs11170468	CPNE8	12:37716315	C	A	2.85 (0.09)	0.73 (0.50-1.05)
rs11191560	NT5C2	10:104859028	C	T	0.15 (0.70)	1.11 (0.65-1.88)
rs11191580	NT5C2	10:103146454	C	T	0.15 (0.70)	1.11 (0.65-1.88)
rs1121980	FTO	16:53775335	A	G	1.17 (0.28)	1.27 (0.83-1.94)
rs11583200	ELAVL4	1:50332407	C	T	0.66 (0.42)	0.86 (0.59-1.24)
rs11671664	GIPR	19:45669020	A	G	1.44 (0.23)	0.71 (0.41-1.24)
rs1167827	HIP1	7:75001105	A	G	0.29 (0.59)	0.90 (0.62-1.31)
rs11688816	EHBP1	2:62906552	G	A	0.47 (0.49)	0.86 (0.57-1.31)
rs11727676	HHIP	4:145878514	C	T	0.27 (0.60)	0.88 (0.55-1.42)
rs11847697	PRKD1	14:29584863	T	C	3.14 (0.08)	1.61 (0.95-2.72)
rs12149832	FTO	16:53808996	A	G	1.34 (0.25)	1.28 (0.84-1.96)
rs12286929	CADM1	11:114527614	A	G	4.97 (0.03)	1.61 (1.06-2.45)
rs12401738	FUBP1	1:78219349	A	G	0.68 (0.41)	0.86 (0.59-1.23)
rs12429545	OLFM4	13:53000207	A	G	0.26 (0.61)	0.89 (0.58-1.38)
rs12444979	GPRC5B	16:19922278	T	C	0.01 (0.92)	0.98 (0.66-1.45)
rs12446632	GPRC5B	16:19842890	A	G	0.22 (0.64)	0.91 (0.61-1.36)
rs12463617	TMEM18	2:629244	A	C	2.72 (0.10)	1.38 (0.94-2.01)
rs12566985	FPGT-TNNI3K	1:74774781	G	A	2.05 (0.15)	1.33 (0.90-1.98)
rs12597579	GP2	16:20246545	T	C	0.68 (0.41)	0.77 (0.41-1.43)
rs12885454	PRKD1	14:28806589	A	C	1.52 (0.22)	0.80 (0.56-1.14)
rs12940622	RPTOR	17:76230166	A	G	0.36 (0.55)	0.89 (0.62-1.29)
rs12964056	MC4R	18:60006567	T	C	1.98 (0.16)	0.77 (0.53-1.11)
rs12970134	MC4R	18:60217517	A	G	2.84 (0.09)	1.37 (0.95-1.97)
rs13021737	TMEM18	2:622348	A	G	3.29 (0.07)	1.42 (0.97-2.08)
rs13034723	KLF9	2:190120954	A	G	0.79 (0.38)	1.19 (0.81-1.76)
rs13078807	CADM2	3:85835000	G	A	0.82 (0.37)	1.18 (0.82-1.71)
rs13078960	CADM2	3:85890280	G	T	0.75 (0.39)	1.18 (0.82-1.69)
rs13107325	SLC39A8	4:103407732	T	C	0.20 (0.66)	0.90 (0.56-1.45)
rs13130484	GNPDA2	4:45173674	T	C	3.74 (0.05)	1.50 (0.99-2.27)
rs13191362	PARK2	6:162953340	G	A	0.28 (0.60)	1.12 (0.74-1.71)
rs13201877	IFNGR1	6:137717234	G	A	0.05 (0.83)	0.95 (0.63-1.45)
rs1426654	SLC24A5	15:48134287	G	A	0.69 (0.41)	0.42 (0.05-3.29)
rs1441264	MIR548A2	13:78478920	G	A	3.58 (0.06)	0.70 (0.48-1.01)
rs1514175	TNNI3K	1:74525960	A	G	1.86 (0.17)	1.31 (0.89-1.91)
rs1516725	ETV5	3:187306698	T	C	0.17 (0.68)	1.09 (0.72-1.65)
rs1528435	UBE2E3	2:181259207	C	T	0.77 (0.38)	0.85 (0.59-1.23)
rs1542829	COL6A5	3:130418627	A	G	0.30 (0.58)	0.86 (0.51-1.46)
rs1555543	PTBP2	1:96479241	A	C	0.00 (0.95)	1.01 (0.69-1.49)
rs1558902	FTO	16:52361075	A	T	1.09 (0.30)	1.25 (0.82-1.90)
rs1561288	POMC	2:25146133	T	C	1.29 (0.26)	1.23 (0.86-1.78)
rs16851483	RASA2	3:142758126	T	G	2.81 (0.09)	1.52 (0.93-2.47)
rs16858082	GNPDA2	4:45173787	C	T	0.23 (0.64)	0.91 (0.63-1.32)

rs16907751	ZBTB10	8:81538012	T	C	0.68 (0.41)	0.82 (0.51-1.32)
rs16951275	MAP2K5	15:65864222	C	T	0.12 (0.73)	1.07 (0.74-1.54)
rs17001654	SCARB2	4:77348592	G	C	1.49 (0.22)	1.26 (0.87-1.84)
rs17024393	GNAT2	1:109956211	C	T	0.44 (0.51)	1.32 (0.58-2.97)
rs17094222	HIF1AN	10:102385430	C	T	1.42 (0.23)	1.25 (0.87-1.81)
rs17124318	ATG4C	1:63015059	G	C	1.28 (0.26)	0.68 (0.35-1.33)
rs17203016	CREB1	2:207963763	G	A	7.50 (0.01)	0.56 (0.37-0.85)
rs17405819	HNF4G	8:76969139	C	T	0.90 (0.34)	0.84 (0.58-1.21)
rs17724992	PGPEP1	19:18315825	G	A	2.00 (0.16)	1.30 (0.90-1.88)
rs17782313	MC4R	18:60183864	C	T	4.05 (0.04)	1.45 (1.01-2.08)
rs17817964	FTO	16:53794154	A	G	1.15 (0.28)	1.25 (0.83-1.88)
rs1808579	C18orf8	18:19358886	T	C	0.81 (0.37)	1.20 (0.81-1.77)
rs1928295	TLR4	9:119418304	C	T	0.61 (0.43)	0.86 (0.59-1.26)
rs2030323	BDNF	11:27706992	A	C	8.07 (0.00)	0.55 (0.37-0.83)
rs2033529	TDRG1	6:40456631	G	A	0.03 (0.86)	1.03 (0.72-1.48)
rs2033732	RALYL	8:85242264	T	C	0.00 (0.96)	0.99 (0.68-1.43)
rs205262	C6orf106	6:34671142	G	A	0.00 (1.00)	1.00 (0.70-1.44)
rs206936	HMGA1	6:34335092	G	A	0.08 (0.77)	0.95 (0.65-1.37)
rs2075650	TOMM40	19:50087459	G	A	1.11 (0.29)	0.79 (0.51-1.22)
rs2080454	CBLN1	16:47620091	C	A	1.57 (0.21)	0.79 (0.55-1.14)
rs2112347	POC5	5:75050998	G	T	0.33 (0.56)	1.11 (0.77-1.60)
rs2121279	LRP1B	2:142759755	T	C	2.40 (0.12)	0.67 (0.41-1.11)
rs2176040	LOC646736	2:226801046	A	G	0.03 (0.85)	1.04 (0.72-1.49)
rs2176598	HSD17B12	11:43820854	T	C	0.43 (0.51)	1.13 (0.79-1.62)
rs2206734	CDKAL1	6:20694653	T	C	0.09 (0.77)	0.94 (0.64-1.40)
rs2207139	TFAP2B	6:50953449	G	A	0.51 (0.47)	0.87 (0.58-1.28)
rs2237892	KCNQ1	11:2818521	T	C	1.06 (0.30)	0.73 (0.40-1.33)
rs2241423	LBXCOR1	15:67794500	A	G	0.03 (0.87)	1.03 (0.71-1.49)
rs2245368	PMS2L11	7:76446079	G	A	0.24 (0.62)	0.91 (0.62-1.33)
rs2275215	LAMA2	6:129540247	C	T	0.31 (0.58)	1.11 (0.77-1.59)
rs2287019	QPCTL	19:50894012	T	C	3.24 (0.07)	0.67 (0.43-1.04)
rs2331841	MC4R	18:60161404	A	G	0.15 (0.70)	1.08 (0.72-1.63)
rs2365389	FHIT	3:61211502	T	C	0.05 (0.82)	0.96 (0.65-1.40)
rs2444217	ADCY9	16:3988386	G	A	1.35 (0.25)	1.25 (0.86-1.84)
rs2531995	ADCY9	16:3963466	C	T	0.47 (0.49)	1.14 (0.78-1.65)
rs2535633	ITIH4	3:52825614	G	C	1.30 (0.25)	0.80 (0.55-1.17)
rs2568958	NEGR1	1:72299433	G	A	0.69 (0.41)	0.86 (0.60-1.23)
rs261967	PCSK1	5:96514546	C	A	0.95 (0.33)	0.83 (0.58-1.20)
rs2815752	NEGR1	1:72346757	G	A	0.66 (0.42)	0.86 (0.60-1.23)
rs2820292	NAV1	1:200050910	A	C	0.03 (0.87)	0.97 (0.66-1.43)
rs2836754	ETS2	21:39213610	T	C	3.78 (0.05)	1.45 (1.00-2.11)
rs2867125	TMEM18	2:622827	T	C	3.33 (0.07)	1.42 (0.97-2.08)
rs2890652	LRP1B	2:142202362	C	T	1.89 (0.17)	0.74 (0.49-1.14)
rs2903492	TMEM18	2:624678	G	A	3.23 (0.07)	1.42 (0.97-2.07)
rs29941	KCTD15	19:39001372	A	G	1.16 (0.28)	1.22 (0.85-1.76)
rs3096490	COL25A1	4:109057975	A	G	0.00 (0.98)	1.00 (0.69-1.44)
rs3101336	NEGR1	1:72523773	T	C	0.56 (0.45)	0.87 (0.61-1.25)
rs348495	GNPDA2	4:45182425	A	G	0.32 (0.57)	0.90 (0.62-1.30)
rs3736485	DMXL2	15:49535902	A	G	0.18 (0.67)	0.92 (0.61-1.37)
rs3764400	CBX1	17:48046570	C	T	0.19 (0.66)	1.10 (0.73-1.66)
rs3810291	ZC3H4	19:52260843	G	A	4.18 (0.04)	0.69 (0.48-0.98)
rs3817334	MTCH2	11:47607569	T	C	1.77 (0.18)	0.77 (0.53-1.13)
rs3849570	GBE1	3:81874802	A	C	0.06 (0.81)	0.96 (0.66-1.37)
rs3888190	ATP2A1	16:28796987	A	C	0.08 (0.78)	0.95 (0.65-1.38)
rs3934834	NR	1:1070426	T	C	1.48 (0.22)	0.77 (0.51-1.17)
rs4256980	TRIM66	11:8630515	C	G	1.09 (0.30)	1.22 (0.84-1.78)
rs4377469	CCK	3:42261582	G	T	2.34 (0.13)	1.39 (0.91-2.14)
rs4432245	EIF2AK4	15:40032280	C	T	0.30 (0.59)	0.83 (0.42-1.63)
rs4740619	C9orf93	9:15624326	C	T	0.23 (0.63)	1.11 (0.73-1.67)
rs4771122	GTF3A	13:27446043	G	A	1.76 (0.18)	1.28 (0.89-1.84)
rs4776970	MAP2K5	15:67788548	T	A	0.81 (0.37)	1.18 (0.82-1.70)
rs4787491	INO80E	16:29922838	G	A	0.67 (0.41)	1.20 (0.78-1.84)
rs492400	USP37	2:219057996	C	T	2.61 (0.11)	0.73 (0.51-1.07)
rs4929949	RPL27A	11:8583046	C	T	0.24 (0.63)	0.91 (0.61-1.35)
rs516636	SEC16B	1:177886382	A	C	2.48 (0.12)	0.74 (0.51-1.08)
rs543874	SEC16B	1:176156103	G	A	2.27 (0.13)	0.75 (0.51-1.09)

rs571312	MC4R	18:60172536	A	C	5.13 (0.02)	1.52 (1.06-2.18)
rs574367	SEC16B	1:177904075	T	G	2.54 (0.11)	0.74 (0.50-1.07)
rs591166	MC4R	18:60174356	A	T	0.16 (0.69)	1.09 (0.72-1.63)
rs6091540	ZFP64	20:50521269	T	C	2.13 (0.14)	0.76 (0.53-1.10)
rs62033400	FTO	16:53777876	C	T	1.30 (0.25)	1.27 (0.84-1.90)
rs6265	BDNF	11:27658369	T	C	8.69 (0.00)	0.52 (0.34-0.81)
rs633715	SEC16B	1:177883445	C	T	2.86 (0.09)	0.72 (0.50-1.05)
rs6465468	ASB4	7:95007450	T	G	0.03 (0.85)	0.97 (0.67-1.40)
rs6477694	EPB41L4B	9:110972163	C	T	1.70 (0.19)	0.79 (0.55-1.13)
rs6499640	FTO	16:53735765	G	A	0.02 (0.90)	0.98 (0.68-1.41)
rs652722	PAX6	11:31883988	T	C	0.00 (0.98)	1.00 (0.70-1.44)
rs6545814	ADCY3	2:24908447	G	A	0.30 (0.58)	0.90 (0.61-1.32)
rs6548238	TMEM18	2:634905	T	C	2.55 (0.11)	1.36 (0.93-1.99)
rs6567160	MC4R	18:55980115	C	T	3.67 (0.06)	1.42 (0.99-2.05)
rs657452	AGBL4	1:49362434	A	G	0.00 (0.99)	1.00 (0.68-1.47)
rs6804842	RARB	3:25081441	A	G	3.01 (0.08)	0.72 (0.50-1.04)
rs6893807	LINC00461	5:88669203	G	A	0.23 (0.63)	1.10 (0.75-1.61)
rs713586	ADCY3	2:24935139	C	T	1.27 (0.26)	0.80 (0.54-1.18)
rs7138803	BCDIN3D	12:48533735	A	G	1.79 (0.18)	0.78 (0.54-1.12)
rs7141420	NRXN3	14:78969207	C	T	4.03 (0.04)	1.54 (1.01-2.36)
rs7164727	LOC100287559	15:70881044	C	T	0.69 (0.41)	1.17 (0.81-1.67)
rs7202116	FTO	16:53787703	G	A	1.08 (0.30)	1.24 (0.83-1.87)
rs7234864	MC4R	18:60067625	T	C	4.30 (0.04)	1.48 (1.02-2.13)
rs7239883	LOC284260	18:38401669	G	A	0.79 (0.38)	0.85 (0.58-1.22)
rs7243357	GRP	18:55034299	G	T	0.57 (0.45)	0.85 (0.56-1.29)
rs7359397	AC138894.2	16:28874338	T	C	0.13 (0.72)	0.93 (0.64-1.36)
rs7498665	SH2B1	16:28871920	G	A	0.03 (0.87)	0.97 (0.67-1.41)
rs7561317	TMEM18	2:644953	A	G	1.67 (0.20)	1.29 (0.88-1.88)
rs7586879	ADCY3	2:24894108	T	C	0.16 (0.69)	0.93 (0.65-1.33)
rs758747	NLRC3	16:3567359	T	C	1.02 (0.31)	0.83 (0.58-1.19)
rs7599312	ERBB4	2:213121476	A	G	0.63 (0.43)	1.16 (0.80-1.68)
rs7647305	DGKG	3:186116501	T	C	0.34 (0.56)	1.12 (0.77-1.62)
rs7708584	GALNT10	5:154163906	A	G	0.08 (0.78)	0.95 (0.65-1.38)
rs7715256	GALNT10	5:153518086	G	T	0.07 (0.80)	0.95 (0.65-1.39)
rs7899106	GRID1	10:87400884	G	A	0.24 (0.62)	0.85 (0.44-1.63)
rs7903146	TCF7L2	10:114748339	T	C	0.57 (0.45)	0.87 (0.61-1.25)
rs8050136	FTO	16:53782363	A	C	1.13 (0.29)	1.25 (0.83-1.87)
rs8089364	MC4R	18:60191596	C	T	1.78 (0.18)	1.29 (0.89-1.87)
rs867559	LMX1B	9:126703046	G	A	0.00 (0.98)	1.01 (0.69-1.48)
rs887912	FANCL	2:59075742	T	C	1.15 (0.28)	0.82 (0.57-1.18)
rs925946	BDNF	11:27645655	T	G	2.67 (0.10)	1.36 (0.94-1.96)
rs9356744	CDKAL1	6:20685255	C	T	0.11 (0.74)	1.06 (0.74-1.52)
rs9374842	LOC285762	6:120227364	G	A	0.86 (0.35)	0.84 (0.58-1.22)
rs939583	TMEM18	2:622531	C	T	3.27 (0.07)	1.42 (0.97-2.07)
rs9400239	FOXO3	6:109084356	T	C	0.76 (0.38)	0.85 (0.59-1.22)
rs9473924	TFAP2B	6:50866444	T	G	0.02 (0.88)	0.97 (0.67-1.40)
rs9540493	MIR548X2	13:65103705	A	G	1.22 (0.27)	1.25 (0.84-1.85)
rs955423	TENM2	5:166292645	C	A	0.08 (0.78)	1.06 (0.71-1.59)
rs9581854	MTIF3	13:26915782	T	C	0.14 (0.71)	1.07 (0.74-1.57)
rs9641123	CALCR	7:93035668	C	G	0.00 (0.97)	1.01 (0.68-1.50)
rs977747	TAL1	1:47457264	T	G	0.04 (0.84)	1.04 (0.71-1.51)
rs9816226	ETV5	3:186116710	A	T	0.31 (0.57)	1.12 (0.76-1.65)
rs987237	TFAP2B	6:50835337	G	A	0.08 (0.78)	0.95 (0.65-1.38)
rs9914578	SMG6	17:1951886	G	C	3.75 (0.05)	0.68 (0.45-1.00)
rs9925964	KAT8	16:31037396	G	A	1.89 (0.17)	1.30 (0.89-1.89)
rs9939609	FTO	16:53786615	A	T	1.33 (0.25)	1.27 (0.85-1.91)
rs9940128	FTO	16:53766842	A	G	1.04 (0.31)	1.25 (0.81-1.91)

SNPs are listed by NCBI's rs number. SNP: single nucleotide polymorphism. Reported gene: gene reported by authors in the NHGRI-EBI GWAS Catalog. Position: SNP localization (chromosome:base pair) in the reference genome GRCh38/hg38. χ^2 corresponds to the association results with weight loss group membership. OR (95% CI): odds ratio (95% Confidence Interval).

Table S3. List of 11 SNPs in PRS_{11}

SNP	Reported gene	Position	Minor allele	Major allele	χ^2 (P-value)	OR (95% CI)
rs6265	BDNF	11:27658369	T	C	8.69 (0.003)	0.52 (0.34-0.81)
rs10767664	BDNF	11:27704439	T	A	8.44 (0.004)	0.54 (0.36-0.82)
rs2030323	BDNF	11:27706992	A	C	8.07 (0.004)	0.55 (0.37-0.83)
rs17203016	CREB1	2:207963763	G	A	7.50 (0.006)	0.56 (0.37-0.85)
rs11030104	BDNF	11:27641093	G	A	7.33 (0.007)	0.57 (0.38-0.86)
rs571312	MC4R	18:60172536	A	C	5.13 (0.023)	1.52 (1.06-2.18)
rs12286929	CADM1	11:114527614	A	G	4.97 (0.026)	1.61 (1.06-2.45)
rs7234864	MC4R	18:60067625	T	C	4.30 (0.038)	1.48 (1.02-2.13)
rs3810291	ZC3H4	19:52260843	G	A	4.18 (0.041)	0.69 (0.48-0.98)
rs17782313	MC4R	18:60183864	C	T	4.05 (0.044)	1.45 (1.01-2.08)
rs7141420	NRXN3	14:78969207	T	C	4.03 (0.045)	1.54 (1.01-2.36)

SNPs are listed by increasing P-value of association with weight loss group membership. Grey-shaded SNPs correspond to SNPs having a significantly higher frequency of the risk allele within the low weight loss (LWL) group. SNP: single nucleotide polymorphism. Reported gene: gene reported by authors in the NHGRI-EBI GWAS Catalog. Position: SNP localization (chromosome:base pair) in the reference genome GRCh38/hg38. χ^2 corresponds to the association results with weight loss trajectory group. OR (95% CI): odds ratio (95% Confidence Interval).

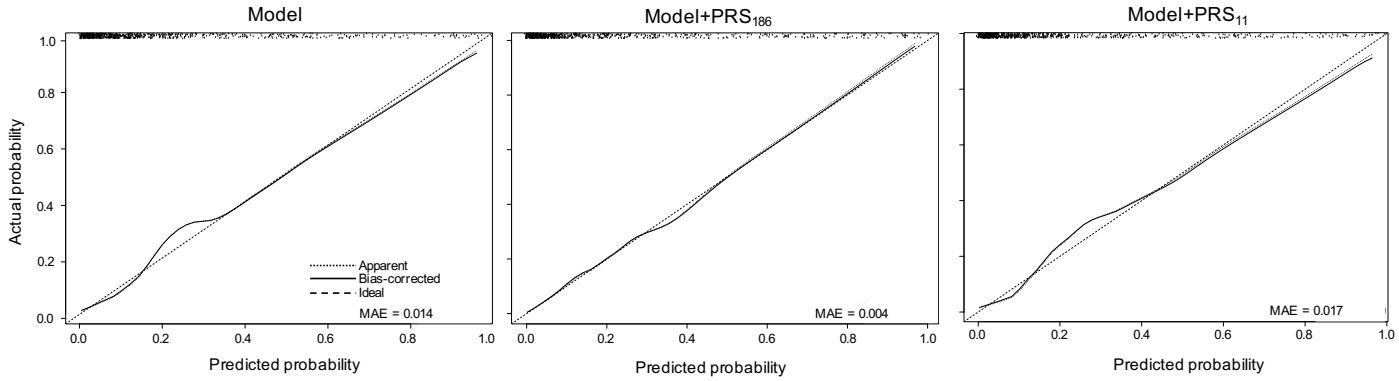

Figure S1. Calibration plots of the prediction models. The actual versus the predicted probabilities in the prediction models before and after the inclusion of polygenic risk scores PRS_{186} and PRS_{11} are plotted (n=767 bariatric patients). The dashed line stands for the ideal prediction, the dotted line indicates the actual prediction, and the solid line represents the bias-corrected prediction after the bootstrap validation procedure (n=1000 repetitions). MAE stands for mean absolute error.

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