

**Appetitive traits as behavioural pathways in genetic susceptibility to obesity: a population-based cross-sectional study**

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Supplementary Table S1. Description of the 90 BMI-related SNPs used to calculate the polygenic risk score. Betas and effective alleles are obtained from the European sex-combined analysis from the genome-wide meta-analysis of the GIANT consortium<sup>1</sup>

SNP	Chromosome	Position (hg18)	Position (hg19)	Effect allele	Other allele	$\beta$ with BMI
rs977747	1	47 457 264	47 684 677	T	G	0.017
rs657452	1	49 362 434	49 589 847	A	G	0.023
rs11583200	1	50 332 407	50 559 820	C	T	0.018
rs3101336	1	72 523 773	72 751 185	C	T	0.033
rs12566985	1	74 774 781	75 002 193	G	A	0.024
rs12401738	1	78 219 349	78 446 761	A	G	0.021
rs11165643	1	96 696 685	96 924 097	T	C	0.022
rs17024393	1	109 956 211	110 154 688	C	T	0.066
rs543874	1	176 156 103	177 889 480	G	A	0.048
rs2820292	1	200 050 910	201 784 287	C	A	0.020
rs13021737	2	622 348	632 348	G	A	0.060
rs10182181	2	25 003 800	25 150 296	G	A	0.031
rs11126666	2	26 782 315	26 928 811	A	G	0.021
rs1016287	2	59 159 129	59 305 625	T	C	0.023
rs11688816	2	62 906 552	63 053 048	G	A	0.017
rs2121279	2	142 759 755	143 043 285	T	C	0.025
rs1460676	2	164 275 935	164 567 689	C	T	0.020
rs1528435	2	181 259 207	181 550 962	T	C	0.018
rs17203016	2	207 963 763	208 255 518	G	A	0.021
rs7599312	2	213 121 476	213 413 231	G	A	0.022
rs492400	2	219 057 996	219 349 752	C	T	0.016
rs2176040	2	226 801 046	227 092 802	A	G	0.014

rs6804842	3	25 081 441	25 106 437	G	A	0.019
rs2365389	3	61 211 502	61 236 462	C	T	0.020
rs13078960	3	85 890 280	85 807 590	G	T	0.030
rs1516725	3	187 306 698	185 824 004	C	T	0.045
rs10938397	4	44 877 284	45 182 527	G	A	0.040
rs13107325	4	103 407 732	103 188 709	T	C	0.048
rs11727676	4	145 878 514	145 659 064	T	C	0.036
rs2112347	5	75 050 998	75 015 242	T	G	0.026
rs7715256	5	153 518 086	153 537 893	G	T	0.016
rs205262	6	34 671 142	34 563 164	G	A	0.022
rs2033529	6	40 456 631	40 348 653	G	A	0.019
rs2207139	6	50 953 449	50 845 490	G	A	0.045
rs9400239	6	109 084 356	108 977 663	C	T	0.019
rs9374842	6	120 227 364	120 185 665	T	C	0.019
rs13201877	6	137 717 234	137 675 541	G	A	0.023
rs13191362	6	162 953 340	163 033 350	A	G	0.028
rs1167827	7	75 001 105	75 163 169	G	A	0.020
rs6465468	7	95 007 450	95 169 514	T	G	0.017
rs17405819	8	76 969 139	76 806 584	T	C	0.022
rs16907751	8	81 538 012	81 375 457	C	T	0.035
rs2033732	8	85 242 264	85 079 709	C	T	0.019
rs4740619	9	15 624 326	15 634 326	T	C	0.018
rs10968576	9	28 404 339	28 414 339	G	A	0.025
rs6477694	9	110 972 163	111 932 342	C	T	0.017
rs1928295	9	119 418 304	120 378 483	T	C	0.019
rs10733682	9	128 500 735	129 460 914	A	G	0.017
rs7899106	10	87 400 884	87 410 904	G	A	0.040
rs17094222	10	102 385 430	102 395 440	C	T	0.025
rs11191560	10	104 859 028	104 869 038	C	T	0.031
rs7903146	10	114 748 339	114 758 349	C	T	0.023
rs4256980	11	8 630 515	8 673 939	G	C	0.021
rs11030104	11	27 641 093	27 684 517	A	G	0.041
rs2176598	11	43 820 854	43 864 278	T	C	0.020
rs3817334	11	47 607 569	47 650 993	T	C	0.026
rs12286929	11	114 527 614	115 022 404	G	A	0.022

rs7138803	12	48 533 735	50 247 468	A	G	0.032
rs11057405	12	121 347 850	122 781 897	G	A	0.031
rs9540493	13	65 103 705	66 205 704	A	G	0.017
rs1441264	13	78 478 920	79 580 919	A	G	0.018
rs10132280	14	24 998 019	25 928 179	C	A	0.023
rs12885454	14	28 806 589	29 736 838	C	A	0.021
rs11847697	14	29 584 863	30 515 112	T	C	0.049
rs7141420	14	78 969 207	79 899 454	T	C	0.024
rs3736485	15	49 535 902	51 748 610	A	G	0.018
rs16951275	15	65 864 222	68 077 168	T	C	0.031
rs7164727	15	70 881 044	73 093 991	T	C	0.018
rs758747	16	3 567 359	3 627 358	T	C	0.023
rs12446632	16	19 842 890	19 935 389	G	A	0.040
rs2650492	16	28 240 912	28 333 411	A	G	0.021
rs3888190	16	28 796 987	28 889 486	A	C	0.031
rs4787491	16	29 922 838	30 015 337	G	A	0.016
rs9925964	16	31 037 396	31 129 895	A	G	0.019
rs2080454	16	47 620 091	49 062 590	C	A	0.017
rs1558902	16	52 361 075	53 803 574	A	T	0.082
rs9914578	17	1 951 886	2 005 136	G	C	0.020
rs1000940	17	5 223 976	5 283 252	G	A	0.019
rs12940622	17	76 230 166	78 615 571	G	A	0.018
rs1808579	18	19 358 886	21 104 888	C	T	0.017
rs7239883	18	38 401 669	40 147 671	G	A	0.016
rs7243357	18	55 034 299	56 883 319	T	G	0.022
rs6567160	18	55 980 115	57 829 135	C	T	0.056
rs17724992	19	18 315 825	18 454 825	A	G	0.019
rs29941	19	39 001 372	34 309 532	G	A	0.018
rs2075650	19	50 087 459	45 395 619	A	G	0.026
rs2287019	19	50 894 012	46 202 172	C	T	0.036
rs3810291	19	52 260 843	47 569 003	A	G	0.028
rs6091540	20	50 521 269	51 087 862	C	T	0.019
rs2836754	21	39 213 610	40 291 740	C	T	0.016

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SNP=Single nucleotide polymorphism; BMI=Body mass index.

Supplementary Table S2. Age- and sex-adjusted Pearson's correlation coefficients between the weighted polygenic risk score, appetitive characteristics and anthropometric traits in the DILGOM (N=4632, coefficients are shown above the diagonal) and FinnTwin12 (N=1231, coefficients are shown below the diagonal) cohorts

	Weighted PRS	Uncontrolled eating	Emotional eating	BMI	WC
Weighted PRS	<b>1.00</b>	0.10*	0.07*	0.18*	0.15*
Uncontrolled eating <sup>a</sup>	0.01	<b>1.00</b>	0.72*	0.35*	0.35*
Emotional eating <sup>a</sup>	0.07†	0.50*	<b>1.00</b>	0.32*	0.32*
BMI	0.15*	0.02	0.21*	<b>1.00</b>	0.91*
WC	0.15*	0.05	0.19*	0.89*	<b>1.00</b>

\*P < 0.001; †P < 0.05. <sup>a</sup>Modelled as a latent factor. PRS=Polygenic risk score; BMI=Body mass index; WC=Waist circumference.

## References

1. Locke, A. E. et al. Genetic studies of body mass index yield new insights for obesity biology. Nature 518, 197-206 (2015).