Evidence for three genetic loci involved in both anorexia nervosa risk and variation of body mass index

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Following the online publication of this paper, the first author noticed a mistake in Table 1. The corrected table accompanies this corrigendum.

The effect allele for anorexia nervosa (AN) was, despite several checks, wrongly assigned. The corrected data show that the alleles predisposing to AN also predispose to a lower body mass index (BMI). This finding is in accordance with *a priori* expectations based on previous research: (a) as of 1995, the genetic factors relevant in AN have been assumed to contribute to underweight.[8,10,23–30] (b) More recently, LD-score regression analyses revealed a negative genetic correlation between AN and obesity.[30]

The incorrect direction of effect in Table 1 entails some incorrect wording in the main text. In detail: *Mol Psychiatry* advance online publication, May 17, 2016; doi:10.1038/ mp.2016.71: Abstract, lines 8 and 9, the sentence should read: '…all AN susceptibility alleles were consistently associated with a lower BMI. …'

On the fourth page, in the left hand column, lines 13 and 14, the sentence should read: '… Interestingly, for all SNPs, the AN risk alleles were consistently associated with a lower BMI (Table 1). …'

On the fourth page, in the left hand column, lines 28 and 29, the sentence should read: '… The direction of effect was opposite between AN risk and early onset extreme obesity in all five SNPs. …'

On the fourth page, in the left hand column, lines 35 and 36, the sentence should read: '…For these SNPs the direction of effect was the same as the effect in GCAN.

On the fourth page, in the right hand column, lines 29 and 30, the sentence should read: '…However, for all available SNPs the direction of effect was opposite to that observed for obesity in the GIANT GWAMA. …'

On the fourth page, in the right hand column, line 42, the sentence should read: '…have indeed detected SNPs associated with both AN and lower BMI. …'

On the fourth page, in the right hand column, lines 48–50, the sentences should read: '… It is also of interest that all AN risk alleles were consistently associated with lower BMI as …'

On the sixth page, in the right hand column, lines 8–17, the sentence should read: '…The finding that gene variants predisposing to a lower BMI are the same as those predisposing to AN, is in accordance with *a priori* expectations based on previous research[8,10,23–30]. …'

Table 1.

Nine of the 1000 SNPs with the lowest *P*-values in a GWAS for AN risk (GCAN[9]) are associated with decreased BMI (GIANT[11], with Bonferroni-corrected *P* < 0.05 significance; sorted according to the nominal *P*-values for BMI in all GIANT participants)

Chromosome/ position/SNP nearest gene(s)	Location	Rank in AN GWAS	AN reference allele/ frequency in AN cases	Odds ratio (s.e.m.) for AN reference allele	P-value for AN risk	BMI reference allele/ frequency in GIANT	β (s.e.m.) for BMI reference allele	Nominal P-value for BMI: all female/male	Bonferroni corrected P-value[a]	Direction of effect (+/−)[b]
10/126685663 rs1561589 *CTBP2*	Intron	201	G/0.67	1.14 (0.04)	7.74×10^{-5}	G/0.66	−0.0157 (0.0033)	2.47×10^{-6}, 3.45×10^{-7}/0.043	0.0025	+
10/126681170 rs12771627 *CTBP2*	Intron	190	A/0.25	0.87 (0.03)	7.28×10^{-5}	A/0.26	0.0162 (0.0035)	4.25×10^{-6}, 5.8×10^{-6}/0.022	0.0043	+
10/126674064 rs11245456 *CTBP2*	Intron	177	G/0.25	0.87 (0.03)	6.79×10^{-5}	G/0.25	0.0171 (0.0037)	4.58×10^{-6}, 1.03×10^{-5}/0.009	0.0046	+
19/34978662 rs17513613 *CCNE1*	Distant 5′	409	C/0.30	0.88 (0.03)	0.0002	C/0.33	0.015 (0.0033)	5.41×10^{-6}, 6.4×10^{-3}/1.24×10^{-5}	0.0054	+
2/203492447 rs17406900 CARF	Intron	709	G/0.52	0.90 (0.03)	0.0003	G/0.51	0.0134 (0.0031)	1.08×10^{-5}, 1.8×10^{-4}/2.27×10^{-3}	0.0108	+
2/203639257 rs7593917 *NBEAL1*	Intron	444	G/0.54	0.89 (0.03)	0.0002	G/0.54	0.0131 (0.0031)	2.48×10^{-5}, 9.54×10^{-5}/9.39×10^{-3}	0.0248	+
2/203582157 rs11691351 *NBEAL1*	Distant 5′	412	G/0.54	0.89 (0.03)	0.0002	G/0.54	0.0126 (0.0031)	3.57×10^{-5}, 1.98×10^{-4}/8.21×10^{-3}	0.0357	+
19/34988693 rs8102137 *CCNE1*	Distant 5′	248	C/0.30	0.88 (0.03)	9.45×10^{-5}	C/0.33	0.0169 (0.0041)	3.76×10^{-5}, 0.006/2.46×10^{-4}	0.0376	+
2/203635796 rs7573079 *NBEAL1*	Intron	401	A/0.54	0.89 (0.03)	0.0002	A/0.54	0.0124 (0.0031)	4.61×10^{-5}, 2.80×10^{-4}/0.008	0.0461	+

Abbreviations: AN, anorexia nervosa; BMI, body mass index; *CARF*, calcium-responsive transcription factor; *CCNE1*, cyclin E1; *CTBP2*, C-terminal binding protein 2; GCAN, Genetic Consortium for AN; GIANT, Genetic Investigation of ANthropometric Traits; GWAS, genome-wide association studies; *NBEAL1*, neurobeach inlike 1, SNP, single-nucleotide polymorphism.

[a]Primary analysis, sex-combined, correction for 1000 test.

[b]Direction of effect: '+' the effect/risk allele for decreased BMI and AN risk are identical.