

**Supplemental Table 1.** The source of the GWAS data sets used for genetic correlations

	<b>Phenotype</b>	<b>Consortium</b>	<b>Reference</b>	<b>No. of individuals in GWAS</b>
Used in MTAG	Intelligence <sup>1</sup>	-	Sniekers et al. Nature Genetics (2017); advanced online publication. PMID:28530673	78 308
	Education <sup>2</sup>	SSGAC	Okbay et al. Nature (2016);7604: 539-542. PMID: 27225129	329 417
Used to derive genetic correlations				
	Household Income <sup>3</sup>	-	Hill, et al. Current Biology (2016); 22:3083-3089. PMID: 27818178	96 900
	Social Deprivation <sup>3</sup>		Hill, et al. Current Biology (2016); 22:3083-3089. PMID: 27818178	112 005
	Parents' age at Death <sup>4</sup>	-	Pilling et al. Aging (2016); 8:1-24. PMID: 27015805.	75 244
	ADHD	Psychiatric Genetics Consortium (PGC)	Demontis et al. (2017); BioRxiv.	19,099 cases 34,194 controls
	Bipolar disorder <sup>5</sup>	Psychiatric Genetics Consortium (PGC)	Psychiatric GWAS Consortium Bipolar Disorder Working Group. Nature Genetics (2011); 43: 977-983. PMID: 21926972	7481 cases 9250 controls
	Schizophrenia <sup>6</sup>	Psychiatric Genetics Consortium (PGC)	Schizophrenia Working Group of the Psychiatric Genomics Consortium. Nature (2014); 511: 421-427. PMID: 25056061	36 989 cases 113 075 controls
	MDD <sup>7</sup>	Psychiatric Genetics Consortium (PGC)	Major Depressive Disorder Working Group of the Psychiatric GWAS Consortium. Molecular Psychiatry (2013); 18: 497-511. PMID: 22472876	9240 cases 9519 controls
	ASD <sup>8</sup>	PGC	Cross-Disorder Group of the Psychiatric Genomics Consortium, Lancet (2013)	10 226
	Coronary Artery Disease <sup>9</sup>	CARDIoGRAM	Schunkert et al. Nature Genetics 2011; 43: 333-338. PMID: 21378990	22 233 cases 64 762 controls
	Type 2 diabetes <sup>10</sup>	DIAGRAM	Morris et al. Nature Genetics (2012); 44: 981-990. PMID: 22885922	12 171 cases 56 862 controls
	Obesity <sup>11</sup>	GIANT	Berndt et al. Nature Genetics 2013; 45:501-512, PMID:	263 407
	Alzheimer's disease <sup>12</sup>	International Genomics of Alzheimer's Project (IGAP)	Lambert et al. Nature Genetics (2013); 45: 1452-1458. PMID: 24162737	17 008 cases 37 154 controls
	Anorexia Nervosa	Genetic Consortium for Anorexia Nervosa (GCAN)	Boraska, Vesna, et al. Molecular Psychiatry (2014); 19(10): 1085-1094. PMID: 24514567	2907 cases 14860 controls
	Self-Rated Health <sup>13</sup>	-	Harris et al. International Journal of Epidemiology (2016); PMID:27864402	111 749
	Smoking (Ever Vs Never) <sup>14</sup>	Tobacco and Genetics Consortium	Tobacco and Genetics Consortium. Nature Genetics (2010); 5: 441-447. PMID: 20418890.	74 053
	Neuroticism	-	Smith et al. Molecular Psychiatry (2016). 21(6): 749-757	106 000
	Tiredness <sup>15</sup>	-	Deary et al. Molecular Psychiatry (2017); PMID:28322280.	108 976
	Subjective Wellbeing <sup>16</sup>	-	Okbay et al. Nature Genetics (2016);6:624-633. PMID: 27089181	193 397
	BMI <sup>17</sup>	GIANT	Locke et al. Nature (2015); 518: 197-206. PMID: 25673413	339 224
	Height <sup>18</sup>	GIANT	Wood et al. Nature Genetics (2014); 11: 1173-1186. PMID:25282103	253 288
	Head Circumference <sup>19</sup>	EGG	Taal et al. Nature Genetics (2012);4:532-538. PMID:22504419	10 678

Chronotype <sup>20</sup>	-	Jones et al. PLoS Genetics (2016):PMID:27494321	128 266
Sleep Duration <sup>20</sup>	-	Jones et al. PLoS Genetics (2016):PMID:27494321	128 266
Age at First Birth <sup>21</sup>	SSGAC	Barban et al. Nature Genetics (2016):12;1462-1472.PMID:27798627	222 037
Number of Children <sup>21</sup>	SSGAC	Barban et al. Nature Genetics (2016):12;1462-1472.PMID:27798627	318 863

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## References

1. Sniekers S, Stringer S, Watanabe K, Jansen PR, Coleman JR, Krapohl E *et al.* Genome-wide association meta-analysis of 78,308 individuals identifies new loci and genes influencing human intelligence. *Nat Genet* 2017.
2. Okbay A, Beauchamp JP, Fontana MA, Lee JJ, Pers TH, Rietveld CA *et al.* Genome-wide association study identifies 74 loci associated with educational attainment. *Nature* 2016; **533**(7604): 539-542.
3. Hill WD, Hagenaars SP, Marioni RE, Harris SE, Liewald DC, Davies G *et al.* Molecular genetic contributions to social deprivation and household income in UK Biobank. *Curr Biol* 2016; **26**(22): 3083-3089.
4. Pilling LC, Atkins JL, Bowman K, Jones SE, Tyrrell J, Beaumont RN *et al.* Human longevity is influenced by many genetic variants: evidence from 75,000 UK Biobank participants. *Aging (Albany NY)* 2016; **8**(3): 547.
5. Psychiatric GWAS Consortium Bipolar Disorder Working Group. Large-scale genome-wide association analysis of bipolar disorder identifies a new susceptibility locus near ODZ4. *Nat Genet* 2011; **43**(10): 977-983.
6. Schizophrenia Working Group of the Psychiatric Genomics Consortium. Biological insights from 108 schizophrenia-associated genetic loci. *Nature* 2014; **511**(7510): 421-427.
7. Ripke S, Wray NR, Lewis CM, Hamilton SP, Weissman MM, Breen G *et al.* A mega-analysis of genome-wide association studies for major depressive disorder. *Mol Psychiatry* 2013; **18**(4): 497-511.
8. Cross-Disorder Group of the Psychiatric Genomics Consortium. Identification of risk loci with shared effects on five major psychiatric disorders: a genome-wide analysis. *Lancet* 2013; **381**(9875): 1371-1379.
9. Schunkert H, König IR, Kathiresan S, Reilly MP, Assimes TL, Holm H *et al.* Large-scale association analysis identifies 13 new susceptibility loci for coronary artery disease. *Nat Genet* 2011; **43**(4): 333-338.
10. Morris AP, Voight BF, Teslovich TM, Ferreira T, Segre AV, Steinthorsdottir V *et al.* Large-scale association analysis provides insights into the genetic architecture and pathophysiology of type 2 diabetes. *Nat Genet* 2012; **44**(9): 981.
11. Berndt SI, Gustafsson S, Mägi R, Ganna A, Wheeler E, Feitosa MF *et al.* Genome-wide meta-analysis identifies 11 new loci for anthropometric traits and provides insights into genetic architecture. *Nat Genet* 2013; **45**(5): 501-512.

12. Lambert J-C, Ibrahim-Verbaas CA, Harold D, Naj AC, Sims R, Bellenguez C *et al.* Meta-analysis of 74,046 individuals identifies 11 new susceptibility loci for Alzheimer's disease. *Nat Genet* 2013; **45**(12): 1452-1458.
13. Harris SE, Hagenaars SP, Davies G, Hill WD, Liewald DC, Ritchie SJ *et al.* Molecular genetic contributions to self-rated health. *bioRxiv* 2015: 029504.
14. Tobacco and Genetics Consortium. Genome-wide meta-analyses identify multiple loci associated with smoking behavior. *Nat Genet* 2010; **42**(5): 441-447.
15. Deary V, Hagenaars SP, Harris SE, Hill WD, Davies G, Liewald DC *et al.* Genetic contributions to self-reported tiredness. *bioRxiv* 2016: 047290.
16. Okbay A, Baselmans BM, De Neve J-E, Turley P, Nivard MG, Fontana MA *et al.* Genetic variants associated with subjective well-being, depressive symptoms, and neuroticism identified through genome-wide analyses. *Nat Genet* 2016.
17. Locke AE, Kahali B, Berndt SI, Justice AE, Pers TH, Day FR *et al.* Genetic studies of body mass index yield new insights for obesity biology. *Nature* 2015; **518**(7538): 197-206.
18. Wood AR, Esko T, Yang J, Vedantam S, Pers TH, Gustafsson S *et al.* Defining the role of common variation in the genomic and biological architecture of adult human height. *Nat Genet* 2014; **46**(11): 1173-1186.
19. Taal HR, St Pourcain B, Thiering E, Das S, Mook-Kanamori DO, Warrington NM *et al.* Common variants at 12q15 and 12q24 are associated with infant head circumference. *Nat Genet* 2012; **44**(5): 532-538.
20. Jones SE, Tyrrell J, Wood AR, Beaumont RN, Ruth KS, Tuke MA *et al.* Genome-wide association analyses in 128,266 individuals identifies new morningness and sleep duration loci. *PLoS Genet* 2016; **12**(8): e1006125.
21. Barban N, Jansen R, de Vlaming R, Vaez A, Mandemakers JJ, Tropf FC *et al.* Genome-wide analysis identifies 12 loci influencing human reproductive behavior. *Nat Genet* 2016; **48**(12): 1462-1472.