

TABLE S1. SUMMARY STATISTICS

GWAS	Study	N
1. Age at Menarche	Perry et al., 2014	182,416
2. Alzheimer's	Lambert et al., 2013	54,162
3. Anorexia	Jostins et al., 2012	17,767
4. Anxiety Disorder (Any)	Otowa et al., 2016	17,310
5. Attention-Deficit/ Hyperactivity Disorder	Neale et al., 2010	2,064 trios/896 cases/2,455 controls
6. Autism	Cross-Disorder Group of the Psychiatric Genomics Consortium, 2013	10,263
7. Bipolar Disorder	Psychiatric GWAS Consortium Bipolar Disorder Working Group, 2011	16,731
8. Birth Height	Van der Valk et al., 2015	28,459
9. Birth Weight	Horikoshi et al., 2013	26,836
10. Body Mass Index	Locke et al., 2015	322,154
11. Child IQ	Benyamin et al., 2014	17,989
12. Cigarettes Per Day	Tobacco and Genetics Consortium, 2010	73,853
13. College Completion	Rietveld et al., 2013	95,427
14. Coronary Artery Disease	Schunkert et al., 2011	84,266
15. Crohn's	Jostins et al., 2012	20,883
16. Depressive Symptoms	Okbay et al., 2016	161,460
17. Ever/Never Smoked	Tobacco and Genetics Consortium, 2010	74,035
18. Extraversion	van den Berg et al., 2016	63,030
19. HDL	Teslovich et al., 2010	99,900
20. Height	Wood et al., 2014	253,288
21. Infant Head Circ.	Taal et al., 2012	10,768
22. Intracranial Vol.	Hibar et al., 2015	11,373
23. LDL	Teslovich et al., 2010	95,454
24. Major Depressive Disorder	Major Depressive Disorder Working Group of the Psychiatric Genomics Consortium, 2013	18,759
25. Neuroticism	Okbay et al., 2016	170,911
26. Rheumatoid Arthritis	Stahl et al., 2010	25,500
27. Schizophrenia	Schizophrenia Working Group of the Psychiatric Genomics Consortium, 2014	150,064
28. Total Cholesterol	Teslovich et al., 2010	100,184
29. Triglycerides	Teslovich et al., 2010	96,598
30. Type 2 Diabetes	Morris et al., 2012	69,033
31. Ulcerative Colitis	Stahl et al., 2010	27,432
32. Waist-to-Hip Ratio	Shungin et al., 2015	212,248
33. Years of Education	Rietveld et al., 2013	95,427

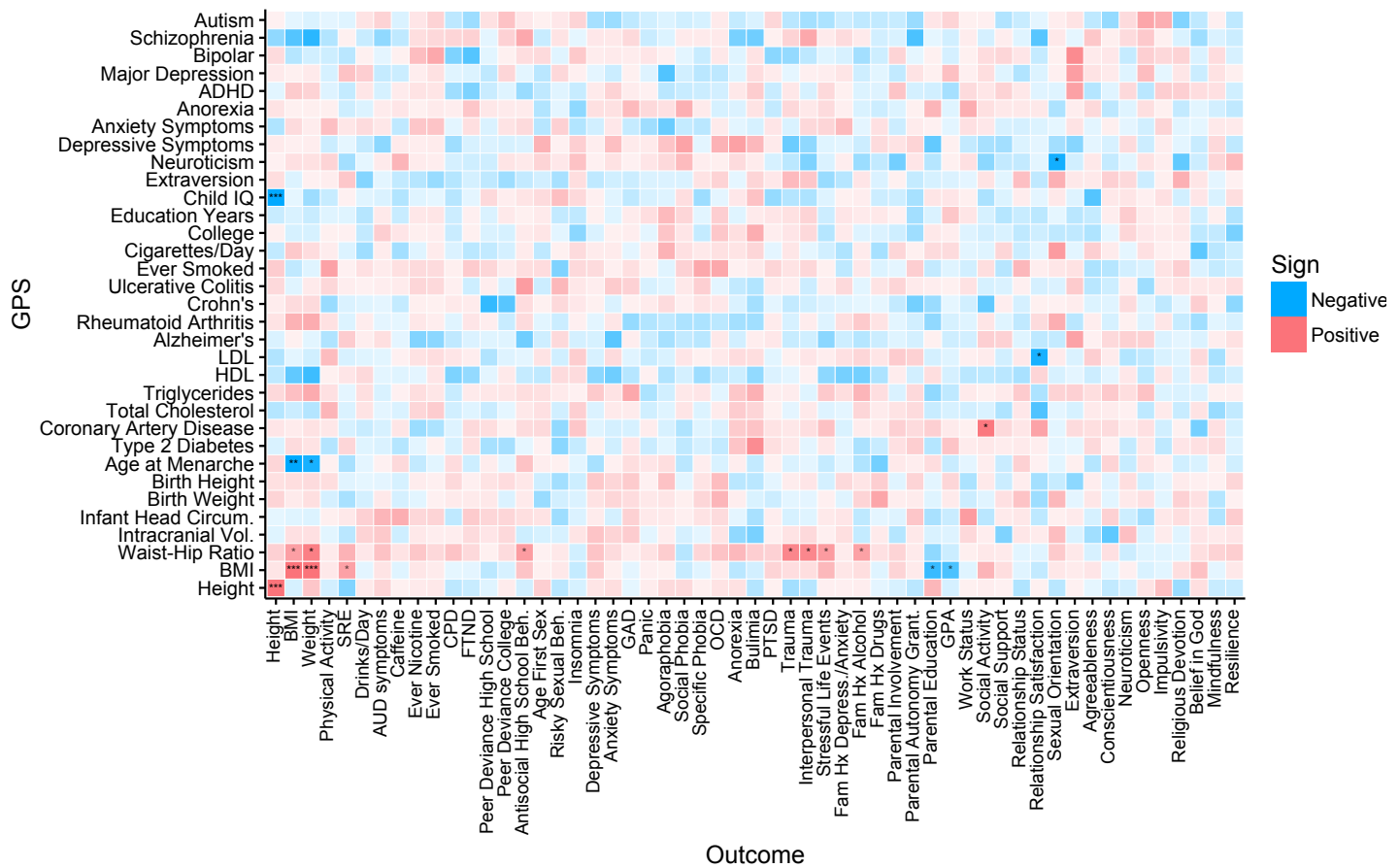
Note: The first column lists the phenotype measured in the discovery sample, the second column cites the study related to the discovery sample, and the third reflects the sample size of each discovery sample.

Table S2. Phenotypes, Measures and Sample Sizes in the Young Adult Sample

Test Phenotypes	Measures	Timepoints Assessed	EUR N	TOT N
Alcohol Use	SRE (Schuckit, Smith, & Tipp, 1997)	all	2919	5315
	Typical/past 30 days	all	3165	6136
	DSM-5 (American Psychological Association, 2013)	all	3167	6039
Antisocial behavior	SSAGA Conduct Disorder (Bucholz et al., 1994)	Y1F	3708	7461
Anxiety	SCL-90 (Derogatis & Cleary, 1977)	all (symptoms)	3717	~7495
	Disorder screening items	Y1S (lifetime), Y2 (past year); all for PTSD	~3000	~6000
BMI	Calculated from self-reported height & weight	Y1F/Y2/Y3	3721	7507
Caffeine	From Kendler & Prescott, 1999	all	3247	6511
Depression	SCL-90 (Derogatis & Cleary, 1977)	all (symptoms),	3717	~7495
	Disorder screening items	Y1S (lifetime), Y2 (past year); all for PTSD	~3000	~6000
Eating Disorder	DSM-IV-TR (American Psychological Association, 2000)	assessed at 1 time point (2013 spring)	~1784	~3873
Family History	Self-report of family history of alcohol, drugs, internalizing	Y1F	~2612	~5141
Grade Point Average (GPA)	Official records	all	3743	7571
Height	Self-report	Y1F, Y2, Y3	3739	7544
Insomnia	PSQI (Buysse, Reynolds, Monk, Berman & Kupfer, 1989)	Y3, cohort 1 only	450	930
Mindfulness	MAAS (Brown & Ryan, 2003)	Y2, cohort 1 only	541	1178
Parental Education	Self-report of highest known parental education level	Y1F	3722	7383
Parenting	Steinberg Parenting Scale (Steinberg, Lamborn, Dornbusch, & Darling, 1992)	Y1F	1034	2003
Peer Deviance	From Kendler, Jacobso, Myers, & Eaves, 2008	Y1F (high school), Y1S, Y2, Y3	~3714	~7455
Personality – Big Five + Impulsivity	BFI (John & Srivastava), UPPS (Lynam, Smith, Whiteside, & Cyders, 2006)	Y1F	~3000	~7500
Physical Activity	IPAQ (Craig et al., 2003)	Y3, cohort 1 only	433	896
Relationships	RAS (Hendrick, 1988)	Y1S, Y2, Y3	~2645	~5447
Religiosity	Personal Devotion (Kendler, Gardner & Prescott 1997)	Y1F	~3689	~7389
Resilience	CD-RISC (Connor & Davidson, 2003)	Y1F	3726	7505
Sexual Behavior	CDC YRBS (Brener et al., 2004)	Y3, cohort 1 only	~449	~930
Sexual Orientation	Self-reported	Y1F/Y2S/Y3S	1238	2637
Smoking	FTND (Heatherton, Kozlowski, Frecker & Fagerstrom, 1991), self-report of initiation & frequency	all	~3733	7527
Social activity	Self-report involvement with sports & school activities	Y1S, Y2, Y3	2447	5117
Social support	From Hays, Sherbourne & Mazel, 1995	all	3694	7420
Stressful Life Events & Trauma	SLE (Kendler, Karkowski & Prescott, 1999); Life Events Checklist (trauma) (Gray, Litz, Hsu, Lombardo, 2004)	all	~3732	~7526
Weight	Self-report	Y1F/Y2/Y3	3727	7526
Work Status	Self-report	Y1F/Y1S/Y2S/Y3S	3299	6572

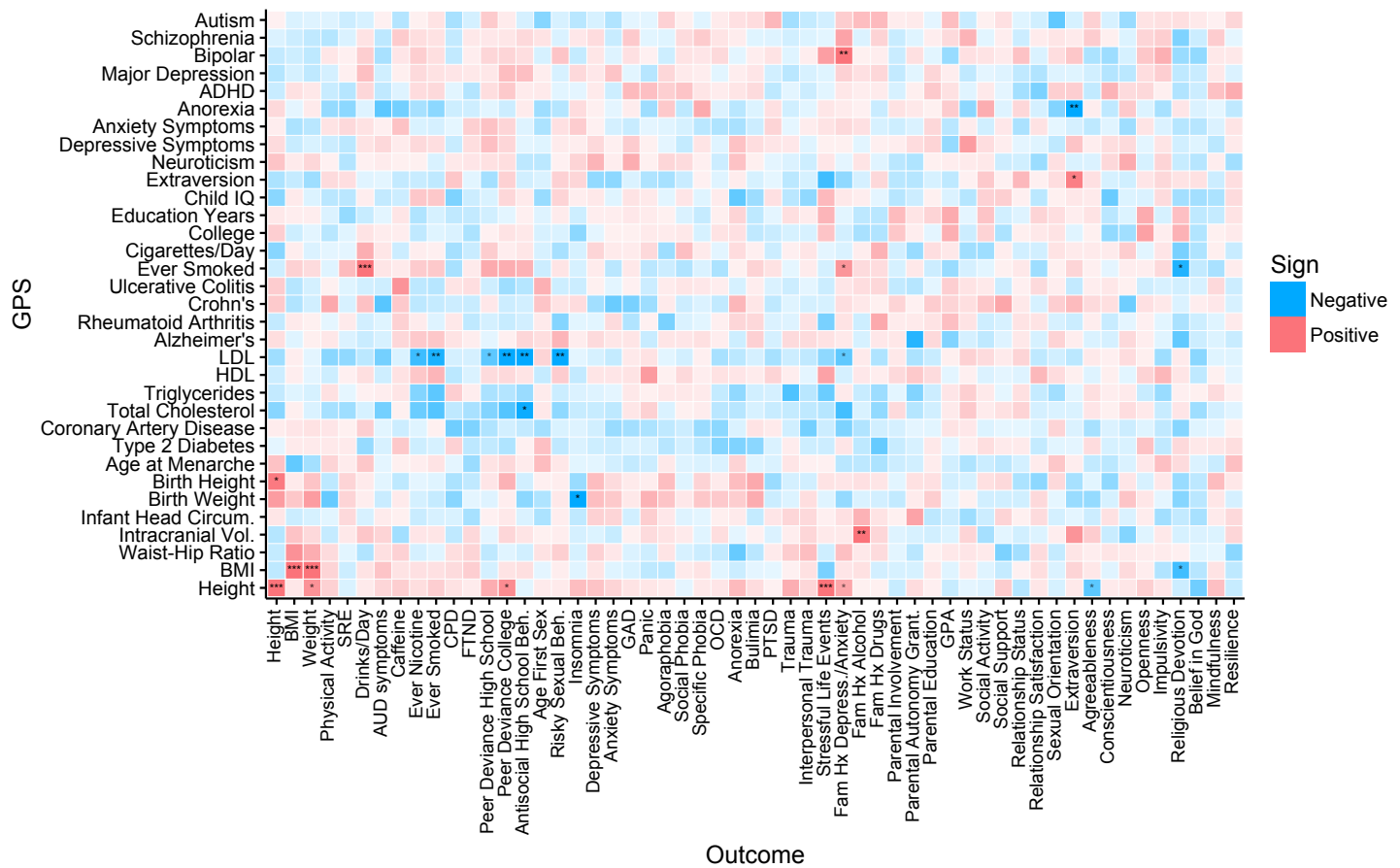
Note: The first column reflects the phenotype being measured in the Virginia Student Survey, the second column cites the measure/reference used, the third column denotes the cohort(s) measured (Y=Year, F/S = Fall/Spring semesters), and the remaining two columns reflect the n sizes for each of the phenotyped samples. EUR N = number of European ancestry samples, TOT N = Total number of samples.

Figure S1. African/African American (AFR) sample GPS on phenome regression q-value heatmap at GPS with prior proportion of causal effects = 0.3.



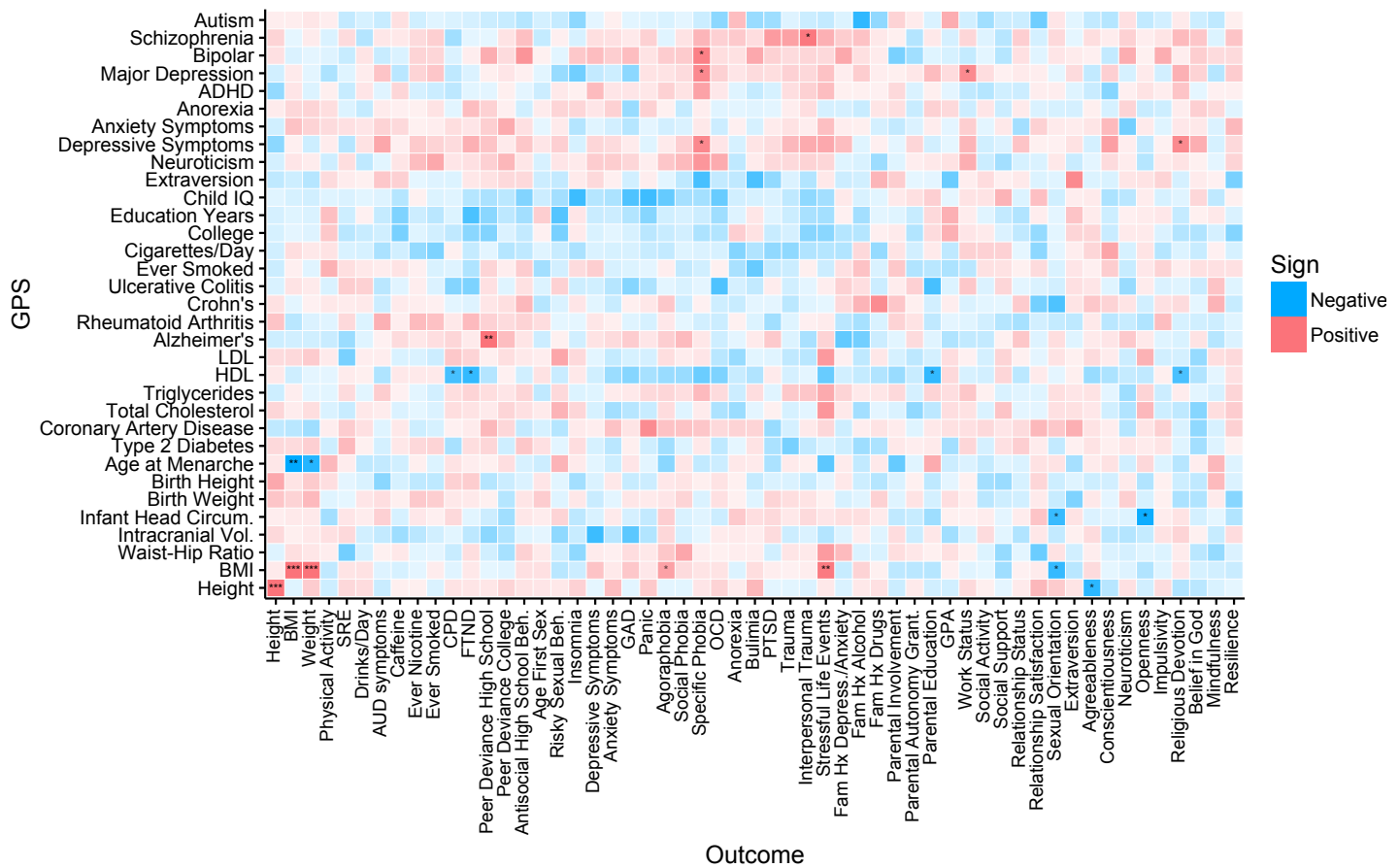
Note. Here, asterisks in the cells of the heatmap denote results of greater effect: *** = q-value < .01, ** = q-value < .05, * = q-value < .16. Blue values reflect a negative association, and red reflect positive association. Intensity of color indicates $-\log_{10}$ p-value.

Figure S2. Admixed American (AMR) sample GPS on phenome regression q-value heatmap at GPS with prior proportion of causal effects = 0.3.



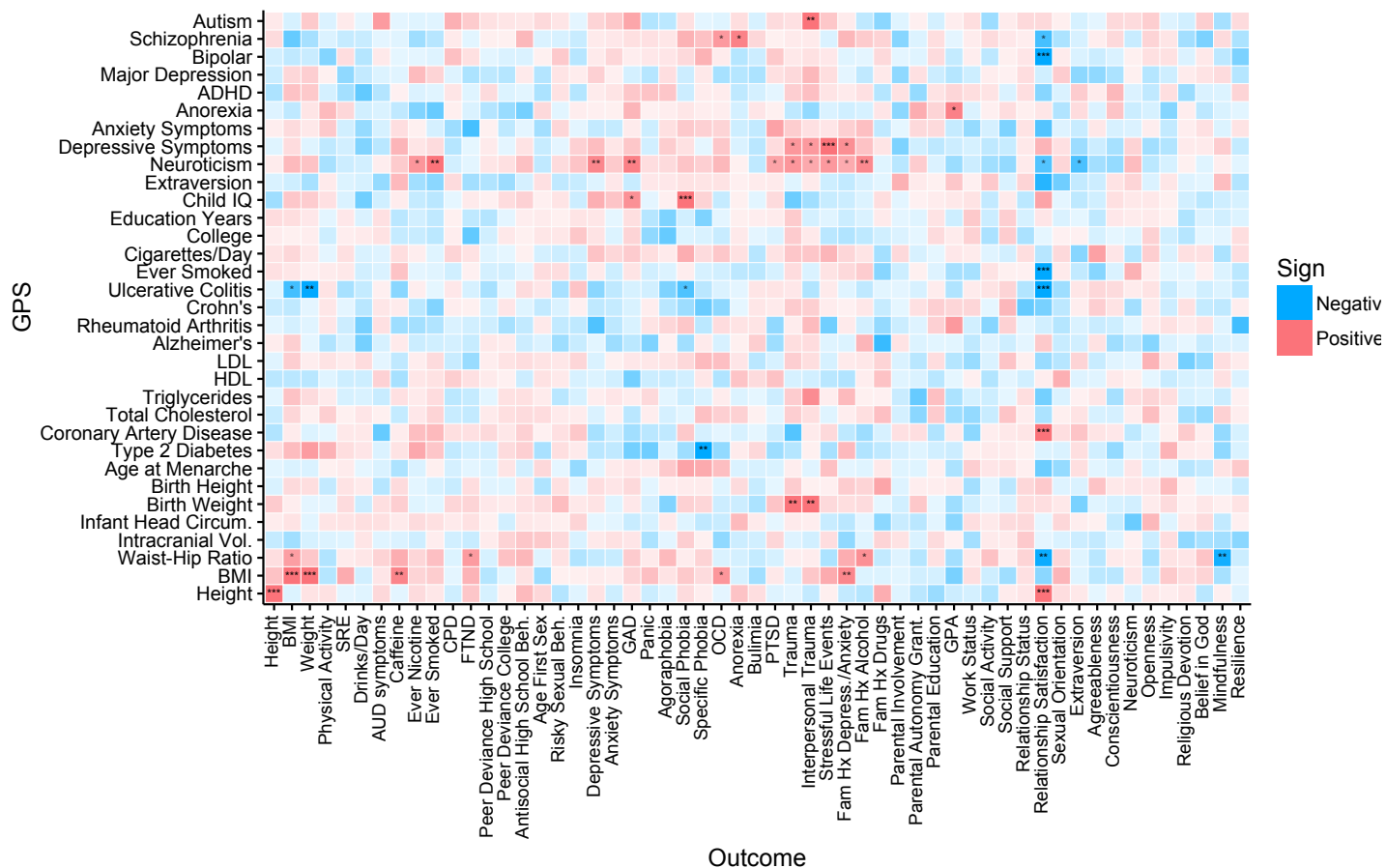
Note. Here, asterisks in the cells of the heatmap denote results of greater effect: *** = q-value < .01, ** = q-value < .05, * = q-value < .16. Blue values reflect a negative association, and red reflect positive association. Intensity of color indicates $-\log_{10}$ p-value.

Figure S3. East Asian/East Asian American (EAS) sample GPS on phenome regression q-value heatmap at GPS with prior proportion of causal effects = 0.3.



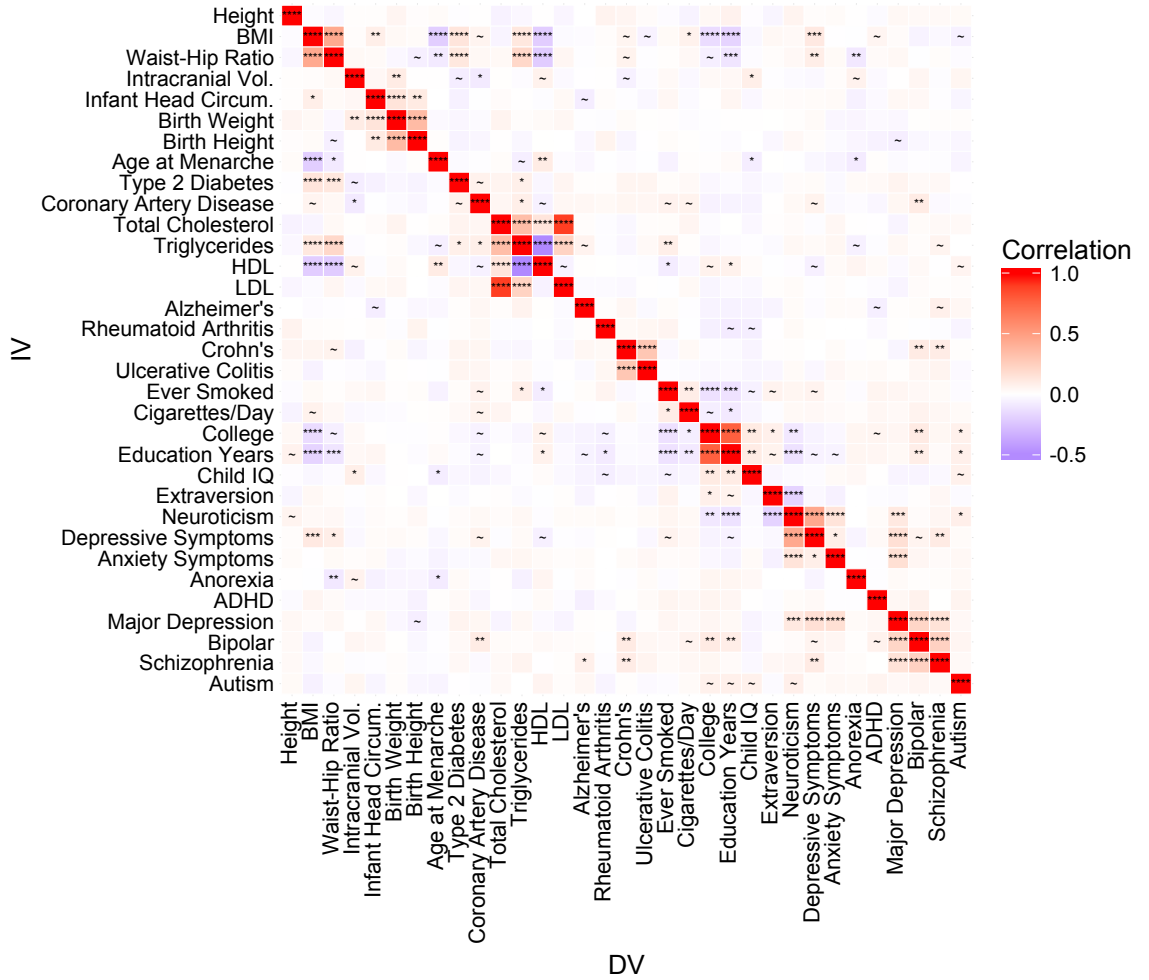
Note. Here, asterisks in the cells of the heatmap denote results of greater effect: *** = q-value < .01, ** = q-value < .05, * = q-value < .16. Blue values reflect a negative association, and red reflect positive association. Intensity of color indicates $-\log_{10}$ p-value.

Figure S4. South Asian/South Asian American (SAS) sample GPS on phenome regression q-value heatmap at GPS with prior proportion of causal effects = 0.3.



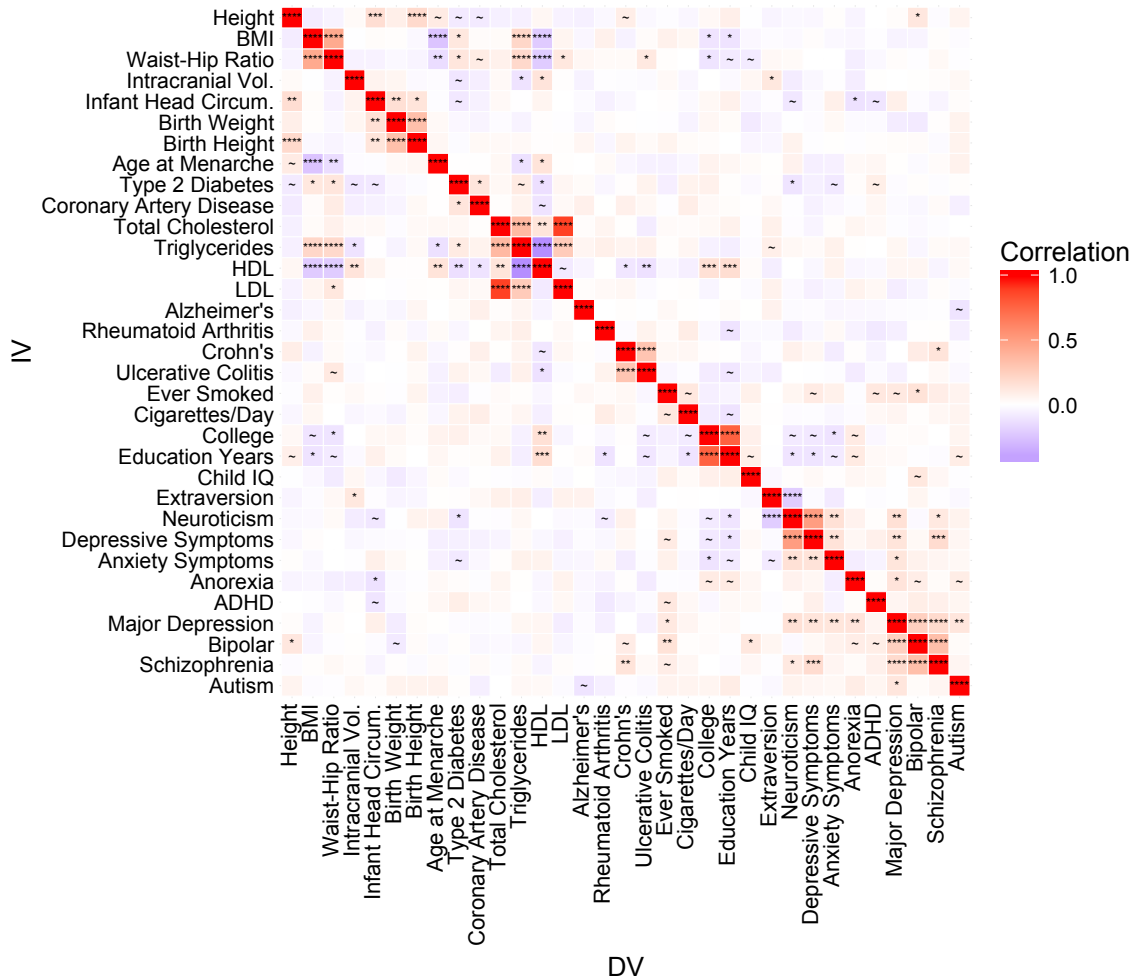
Note. Here, asterisks in the cells of the heatmap denote results of greater effect: *** = q-value < .01, ** = q-value < .05, * = q-value < .16. Blue values reflect a negative association, and red reflect positive association. Intensity of color indicates $-\log_{10}$ p-value.

Figure S5. Genetic Overlap and Co-Heritability of GPS in African/African American (AFR) sample.



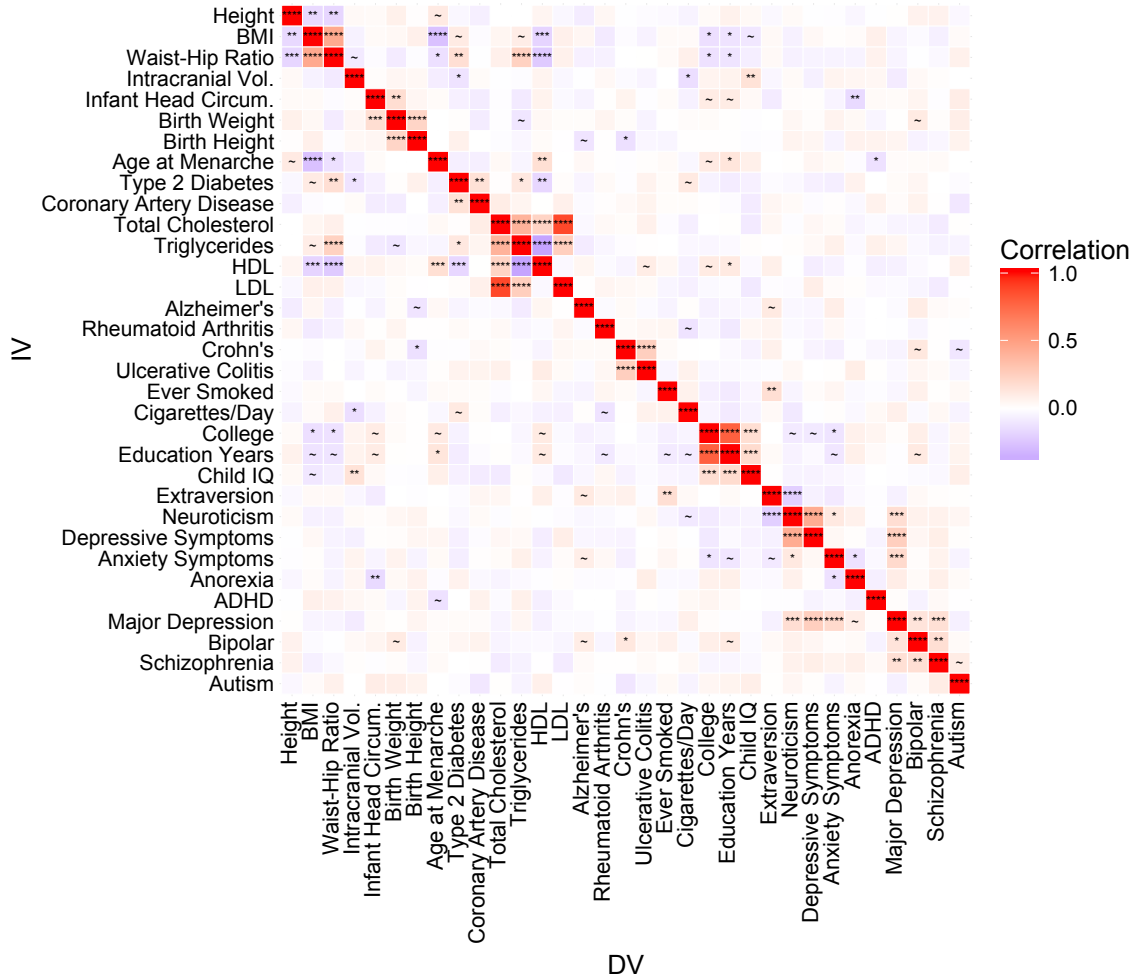
Note. Heatmap of partial correlation coefficients between GPS with prior proportion of causal effects = 0.3. Here, asterisks in the cells of the heatmap denote results of greater effect: **** = q-value < 0.0001, *** = q-value < 0.001, ** = q-value < 0.01, * = q-value < 0.05, and ~ = suggestive significance at q-value < 0.16. Blue values reflect a negative correlation, and red reflect positive correlation.

Figure S6. Genetic Overlap and Co-Heritability of GPS in Admixed American (AMR) sample.



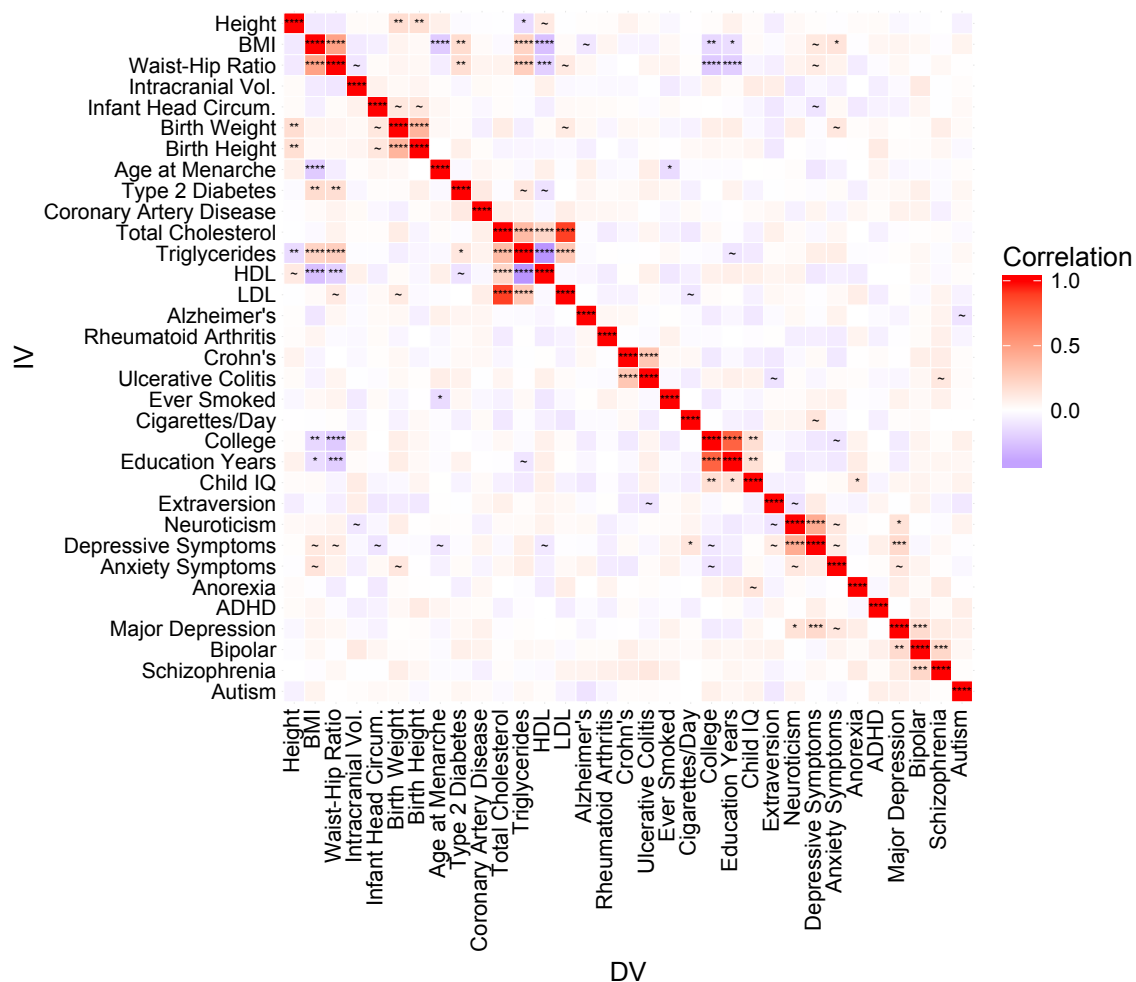
Note. Heatmap of partial correlation coefficients between GPS with prior proportion of causal effects = 0.3. Here, asterisks in the cells of the heatmap denote results of greater effect: **** = q-value < 0.0001, *** = q-value < 0.001, ** = q-value < 0.01, * = q-value < 0.05, and ~ = suggestive significance at q-value < 0.16. Blue values reflect a negative correlation, and red reflect positive correlation.

Figure S7. Genetic Overlap and Co-Heritability of GPS in East Asian/East Asian American (EAS) sample.



Note. Heatmap of partial correlation coefficients between GPS with prior proportion of causal effects = 0.3. Here, asterisks in the cells of the heatmap denote results of greater effect: **** = q-value < 0.0001, *** = q-value < 0.001, ** = q-value < 0.01, * = q-value < 0.05, and ~ = suggestive significance at q-value < 0.16. Blue values reflect a negative correlation, and red reflect positive correlation.

Figure S8. Genetic Overlap and Co-Heritability of GPS in South Asian/South Asian American (SAS) sample.



Note. Heatmap of partial correlation coefficients between GPS with prior proportion of causal effects = 0.3. Here, asterisks in the cells of the heatmap denote results of greater effect: **** = q -value < 0.0001, *** = q -value < 0.001, ** = q -value < 0.01, * = q -value < 0.05, and ~ = suggestive significance at q -value < 0.16. Blue values reflect a negative correlation, and red reflect positive correlation.