

Genetic and early environmental predictors of adulthood self-reports of trauma

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Supplementary Methods 1

Genotyping and Quality Control information (Selzam, S. *et al.* Evidence for gene-environment correlation in child feeding: Links between common genetic variation for BMI in children and parental feeding practices. *PLoS Genet.* 14, e1007757 (2018))

DNA for 8,122 individuals (including 3,607 dizygotic co-twin samples) was extracted from saliva and buccal cheek swab samples and hybridized to HumanOmniExpressExome-8v1.2 genotyping arrays at the Institute of Psychiatry, Psychology and Neuroscience Genomics & Biomarker Core Facility. The raw image data from the array were normalized, pre-processed, and filtered in GenomeStudio according to Illumina Exome Chip SOP v1.4.

(<http://confluence.brc.iop.kcl.ac.uk:8090/display/PUB/Production+Version%3A+Illumina+Exome+Chip+SOP+v1.4>). In addition, prior to genotype calling, 919 multi-mapping SNPs and 501 samples with call rate <0.95 were removed. The ZCALL program was used to augment the genotype calling for samples and SNPs that passed the initial QC.

DNA from 3,747 samples was extracted from buccal cheek swabs and genotyped at Affymetrix, Santa Clara, California, USA. From this sample, 3,665 samples were successfully hybridized to AffymetrixGeneChip 6.0 SNP genotyping arrays

(http://www.affymetrix.com/support/technical/datasheets/genomewide_snp6_datasheet.pdf) using experimental protocols recommended by the manufacturer (Affymetrix Inc., Santa Clara, CA). The raw image data from the arrays were normalized and pre-processed at the Wellcome Trust Sanger Institute, Hinxton, UK for genotyping as part of the Wellcome Trust Case Control Consortium 2 (<https://www.wtccc.org.uk/cc2/>) according to the manufacturer's guidelines (http://www.affymetrix.com/support/downloads/manuals/genomewidesnp6_manual.pdf). Genotypes for the Affymetrix arrays were called using CHIAMO (https://mathgen.stats.ox.ac.uk/genetics_software/chiamo/chiamo.html).

After initial quality control and genotype calling, the same quality control was performed on the samples genotyped on the Illumina and Affymetrix platforms separately using PLINK[1,2], R[3], BCFtools[4], and EIGENSOFT[5,6].

Samples were removed from subsequent analyses on the basis of call rate (<0.98), suspected non-European ancestry, heterozygosity, and relatedness other than dizygotic twin status. SNPs were excluded if the minor allele frequency was smaller than 0.5%, if more than 2% of genotype data were missing, or if the Hardy Weinberg p -value was lower than 10^{-5} . Non-autosomal markers and indels were removed. Association between SNP and the platform, batch, plate or well on which samples were genotyped was calculated; SNPs with an effect p -value < 10^{-4} were excluded. A total sample of 10,346 samples (including 3,320 dizygotic twin pairs and 7,026 unrelated individuals), with 7,289 individuals and 559,772 SNPs genotyped on Illumina and 3,057 individuals and 635,269 SNPs genotyped on Affymetrix remained after quality control.

Genotypes from the two platforms were separately phased using EAGLE2[7], and imputed into the Haplotype Reference Consortium (release 1.1) using the Positional Burrows-Wheeler Transform method[8] through the Sanger Imputation Service[9]. Prior to merging, variants with info <0.75 were excluded and non-overlapping SNPs between platforms were removed. After merging, minor allele frequency differences between platforms were tested for and SNPs with an effect p -value < 10^{-4} , and Hardy Weinberg p -value > 10^{-5} were removed. Using these criteria, 7,363,646 genotyped and well-imputed SNPs were retained for the analyses.

Principal component analysis was performed on a subset of 39,353 common (MAF > 5%), perfectly imputed (info = 1) autosomal SNPs, after stringent pruning to remove markers in linkage disequilibrium ($r^2 > 0.1$) and excluding high linkage disequilibrium genomic regions so as to ensure that only genome-wide effects were detected.

References

1. Chang CC, Chow CC, Tellier LC, Vattikuti S, Purcell SM, Lee JJ. Second-generation PLINK: rising to the challenge of larger and richer datasets. *GigaScience* 2015 4:1. BioMed Central; 2015 Dec 1;4(1):7.
2. Purcell S, Neale B, Todd-Brown K, Thomas L, Ferreira MAR, Bender D, et al. PLINK: A Tool Set for Whole-Genome Association and Population-Based Linkage Analyses. *Am J Hum Genet. Cell Press*; 2007 Sep 1;81(3):559–75.
3. R Core Team. R: A Language and Environment for Statistical Computing. R Foundation for Statistical Computing, Vienna, Austria. 2017 Available from: <https://www.r-project.org>
4. Li H. A statistical framework for SNP calling, mutation discovery, association mapping and population genetical parameter estimation from sequencing data. *Bioinformatics. Oxford University Press*; 2011 Nov 1;27(21):2987–93.
5. Patterson N, Price AL, Reich D. Population structure and eigenanalysis. *PLOS Genetics. Public Library of Science*; 2006 Dec;2(12):e190.
6. Price AL, Patterson NJ, Plenge RM, Weinblatt ME, Shadick NA, Reich D. Principal components analysis corrects for stratification in genome-wide association studies. *Nat Genet.* 2006 Aug;38(8):904–9.
7. Loh P-R, Danecek P, Palamara PF, Fuchsberger C, A Reshef Y, K Finucane H, et al. Reference-based phasing using the Haplotype Reference Consortium panel. *Nat Genet.* 2016 Nov;48(11):1443–8.
8. Durbin R. Efficient haplotype matching and storage using the positional Burrows–Wheeler transform (PBWT). *Bioinformatics. Oxford University Press*; 2014 May 1;30(9):1266–72.
9. McCarthy S, Das S, Kretzschmar W, Delaneau O, Wood AR, Teumer A, et al. A reference panel of 64,976 haplotypes for genotype imputation. *Nat Genet. Nature Publishing Group*; 2016 Oct;48(10):1279–83.

Supplementary Table 1

Self-reported trauma items from the Twins Early Development Study 'TEDS-21' Questionnaire

Retrospectively self-reported childhood trauma

	Never	Rarely	Sometimes	Often	Very often
When you were a child, how often did an adult in your family shout at you?					
When you were a child, how often did an adult say hurtful or insulting things to you?					
When you were a child, how often did an adult push, grab or shove you?					
When you were a child, how often did an adult smack you for discipline?					
When you were a child, how often did an adult punish you in a way that seemed cruel?					
When you were a child, how often did an adult threaten to kick, punch, or hit you with something that could hurt you, or physically attack you in another way?					
When you were a child, how often did an adult actually kick, punch, or hit you with something that could hurt you, or physically attack you in another way?					

Self-reported partner abuse

Self-reported partner abuse, including physical abuse, emotional abuse and control was assessed using six items adapted from the 'Intimate Partner Violence Questions' section of the Centers for Disease Control and Prevention Violence Prevention questionnaire (Walters, Jenkins & Merrick, 2012). Participants reported the extent to which they agreed with six statements describing their current or past partner on a scale of 'Strongly disagree' (0) to 'Strongly agree' (4), with total scores ranging from 0 to 24. The average total score in the study sample was 4.5 (SD = 5.8).

Your partner (current or past) ...	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Got very jealous or tried to control your life					
Tried to keep you away from your family or friends					

Supplementary information

Sometimes said insulting things or threatened you					
You were afraid to disagree with your partner (current or past) because you thought they might hurt you or other family members					
Pushed, hit, kicked, or otherwise physically hurt you					
Made you feel scared or frightened					

Self-reported major life events

Self-reported major life events occurring since the age of 16 were assessed using 11 items adapted from the 'negative' life events items of the Coddington scale, including becoming homeless or seriously ill (Coddington, 1972). Participants were asked to report whether each event had occurred since the age of 16 and the extent to which it affected them, on a scale of 'No, did not happen' (0) to 'Yes, affected me a lot' (4), with total scores ranging from 0 to 44. The average total score in the study sample was 3.3 (SD = 3.7).

Since you were 16 years of age ...	No, did not happen	Yes, but didn't affect me at all	Yes, mildly affected me	Yes, moderately affected me	Yes, affected me a lot
You became homeless					
You or your partner became pregnant or had a baby					
You lost your job or got into serious financial problems					
You were divorced or separated					
You were admitted to hospital or became seriously ill					
You were in trouble with the law					
You were the victim of a serious crime					
Someone close to you died					

Supplementary information

You attempted suicide					
You or your partner had an abortion					
Your parents divorced					

References

Walters, M., Jenkins, L. & Merrick, M. National Intimate Partner and Sexual Violence Survey (NISVS): Summary of Findings for 2010. *PsycEXTRA Dataset* (2012) doi:10.1037/e621642012-003.

Coddington, R. D. The significance of life events as etiologic factors in the diseases of children—II a study of a normal population. *Journal of Psychosomatic Research* vol. 16 205–213 (1972).

Supplementary Table 2**Genome-wide polygenic scores and genome-wide association study derived from**

Polygenic score	Discovery GWAS	Sample size for polygenic score creation	Sample size of discovery GWAS	Exclusions	PMID
Attention deficit hyperactivity disorder (ADHD)	Demontis et al. (2019)	53,293 (19,099 cases, 34,194 controls)	-	-	30478444
Anorexia nervosa	Watson et al. (2019)	72,517 (16,992 cases, 55,525 controls)	-	-	31308545
Anxiety	Purves et al. (2020)	84,217 (26,104 cases, 58,113 controls)	-	-	31748690
Autism spectrum disorder (ASD)	Grove et al. (2019)	46,350 (18,381 cases, 27,969 controls)	-	-	30804558
Bipolar disorder	Stahl et al. (2019)	51,710 (20,352 cases, 31,358 controls)	-	-	31043756
Body mass index (BMI)	Yengo et al. (2018)	681,275	-	-	30124842
Depressive symptoms	Okbay et al. (2016)	161,460	-	-	27089181
Educational attainment	Lee et al. (2018)	766,345	1,131,881	23andMe cohort (n = 365,536)	30038396
Height	Yengo et al. (2018)	693,529	-	-	30124842
Household income	Hill et al. (2016)	112,151	-	-	27818178
Insomnia	Jansen et al. (2019)	386,533	-	-	30804565
Intelligence (IQ)	Savage et al. (2018)	257,043	269,867	TEDS cohort (n = 3,414) and two dbGaP datasets due to technical issue	29942086
Irritability	Results from the Neale Lab	322,668 (90,282 cases, 232,386 controls)	-	-	SNP Heritability for Phenotype 1940. https://nealelab.github.io/UKBB_Idsc/h2_summary_1940.html .
Major depressive disorder	Wray et al. (2018)	173,005 (59,851 cases, 113,154 controls)	480,359	23andMe cohort (n = 307,354: 75,607 cases, 231,747 controls)	29700475
Mood swings	Results from the Neale Lab	329,428 (148,601 cases, 180,827 controls)	-	-	SNP Heritability for Phenotype 1920. https://nealelab.github.io/UKBB_Idsc/h2_summary_1920.html .

Supplementary information

Neuroticism	Luciano et al. (2018)	329,821	-	-	29255261
Obsessive compulsive disorder (OCD)	International Obsessive Compulsive Disorder Foundation Genetics Collaborative (IOCDF-GC) and OCD Collaborative Genetics Association Studies (OCGAS), (2018)	9,725 (2,688 cases, 7,037 controls)	-	-	28761083
Post-traumatic stress disorder (PTSD)	Nievergelt et al. (2019)	174,659 (23,212 cases, 151,447 controls)	-	-	31594949
Schizophrenia	Pardiñas et al. (2018)	105,318 (40,675 cases, 64,643 controls)	-	-	29483656
Subjective well-being	Okbay et al. (2016)	204,966	298,420	23andMe cohort (n = 93,454)	27089181
Risky behaviour (First principal component from automobile speeding, drinks per week, ever smoker, sexual partners)	Linnér et al. (2019)	315,894	-	-	30643258
<i>Sensitivity analysis (see Supplementary Table 7)</i>					
Broad depression (UK Biobank only)	Howard et al. (2019)	500,199 (170,756 cases, 329,443 controls)	-	-	30718901

Supplementary Table 3

Environmental measures in the Twins Early Development Study (TEDS), reporter and age collected

Reporter	Measure	Pre-school				Middle childhood			Early adolescence		
		1	2	3	4	7	8	9	12	14	16
Parent	Stress during pregnancy	■									
	Complications at birth	■									
	Parental marital status		■	■	■	■		■			
	Parental change in job		■	■	■			■			
	Twin/relative serious illness		■	■	■						
	Maternal depression (Edinburgh Postnatal Depression Scale; Cox et al., 1987)		■	■	■						
	Parental feelings (Deater-Deckard, 2000)					■		■	■	■	■
	Parental discipline (Deater-deckard et al., 1998)					■		■	■	■	■
	Home chaos (Matheny et al., 1995)			■	■				■	■	■
	Change to household finances					■				■	■
	Life events (Coddington, 1972)					■		■	■		■
	Relationship Problems Questionnaire (Minnis et al., 2002)						■	■			
	Peer victimisation (Betts et al., 2015)								■	■	■
	Twin	Parental feelings (Deater-Deckard, 2000)							■	■	■
Parental discipline (Deater-deckard et al., 1998)								■	■	■	
Home chaos (Matheny et al., 1995)								■	■	■	
Peer victimisation (Betts et al., 2015)								■	■	■	
Parental monitoring and control (Stattin & Kerr, 2000)											■
Life events (Coddington, 1972)										■	

Supplementary Table 4**Descriptive statistics in analytic sample (n = 3963)**

All predictors were standardized by centering and dividing by two standard deviations, using the rescale function from the R package 'arm'

	mean	sd	min	max	skew	kurtosis
Environmental composites						
Pre-school parent-report (age 1-4)	0.00	0.50	-1.82	2.23	0.29	3.80
Middle childhood parent-report (age 7-10)	0.00	0.50	-1.75	2.88	0.77	5.72
Middle childhood self-report (age 7-10)	0.00	0.50	-1.18	1.87	0.22	2.86
Early adolescence parent-report (age 12-16)	0.00	0.50	-1.16	2.76	1.31	6.30
Early adolescence self-report (age 12-16)	0.00	0.50	-1.22	2.07	0.66	3.59
Polygenic scores (TEDS variable names)						
ADHD_PGC2019_FRCT1	0.00	0.50	-1.54	1.97	-0.02	3.03
Anorexia_PGC2019_FRCT1	0.00	0.50	-1.60	1.82	0.02	3.01
Anxiety_Purves2019_FRCT1	0.00	0.50	-1.69	1.62	0.03	2.84
ASD_iPsychPGC2018_FRCT1	0.00	0.50	-1.79	2.01	0.04	3.03
BIP_PGC2018_FRCT1	0.00	0.50	-1.64	1.79	0.07	3.02
BMI_GIANT2018_FRCT1	0.00	0.50	-1.67	1.87	-0.07	2.95
DepressiveSympt_Okbay2016_FRCT1	0.00	0.50	-1.67	1.91	-0.04	2.95
EA3_Lee2018_no23andme_FRCT1	0.00	0.50	-1.69	1.76	0.02	2.96
Height_GIANT2018_FRCT1	0.00	0.50	-1.73	1.84	-0.01	3.00
Income_Hill2016_FRCT1	0.00	0.50	-1.83	2.10	0.02	3.03
Insomnia_Jansen2018_FRCT1	0.00	0.50	-1.93	1.62	-0.02	3.10
IQ_Savage2018_FRCT1	0.00	0.50	-2.12	1.87	0.00	3.19
irritability_1940_UKB2017_FRCT1	0.00	0.50	-1.94	1.65	0.02	3.13
MDD_excl23andme_PGC2018_FRCT1	0.00	0.50	-1.82	1.74	0.00	3.05
mood_swings_1920_UKB2017_FRCT1	0.00	0.50	-1.99	1.88	0.00	3.06
Neuroticism_Luciano2017_FRCT1	0.00	0.50	-2.63	2.18	0.01	3.25
OCD_PGC2017_FRCT1	0.00	0.50	-1.72	1.98	0.02	2.96
PTSD_PGC2019_FRCT1	0.00	0.50	-1.56	2.03	0.06	2.93
Risk_PC1_Linner2019_FRCT1	0.00	0.50	-2.05	1.60	-0.12	3.03
SCZ_Pardinas2018_FRCT1	0.00	0.50	-2.01	1.57	-0.09	3.03
SWB_Okbay2016_FRCT1	0.00	0.50	-1.79	1.80	-0.01	2.95

Supplementary Table 5

Univariable and multivariable regression analysis of retrospectively self-reported childhood trauma

* = Significant after FDR correction

Figure in main text	Model		estimate	standard error	p-value	95% CIS		
Figure 1	Genetic univariable							
	ADHD	ADHD	0.74	0.16	0.00	0.43 - 1.05	*	
		PC1	0.07	0.15	0.67	-0.24 - 0.37		
		PC2	0.05	0.16	0.75	-0.25 - 0.36		
		PC3	0.13	0.16	0.40	-0.18 - 0.44		
		PC4	-0.25	0.15	0.11	-0.55 - 0.05		
		PC5	-0.20	0.16	0.20	-0.51 - 0.11		
		PC6	0.02	0.16	0.92	-0.29 - 0.32		
		PC7	0.26	0.16	0.10	-0.05 - 0.58		
		PC8	-0.17	0.16	0.31	-0.48 - 0.15		
		PC9	0.11	0.15	0.47	-0.19 - 0.41		
		PC10	0.04	0.16	0.82	-0.27 - 0.35		
		cohort	-0.15	0.16	0.36	-0.46 - 0.17		
		sex	-0.11	0.16	0.47	-0.43 - 0.20		
		batch	0.01	0.16	0.93	-0.30 - 0.33		
		Anorexia	anorexia	0.06	0.15	0.69	-0.24 - 0.36	
			PC1	0.08	0.15	0.61	-0.22 - 0.38	
			PC2	0.06	0.16	0.70	-0.25 - 0.37	
			PC3	0.13	0.16	0.40	-0.18 - 0.44	
			PC4	-0.24	0.15	0.12	-0.54 - 0.06	
			PC5	-0.23	0.16	0.15	-0.54 - 0.08	
			PC6	0.02	0.16	0.89	-0.29 - 0.33	
			PC7	0.24	0.16	0.14	-0.08 - 0.55	
			PC8	-0.16	0.16	0.31	-0.48 - 0.15	
			PC9	0.11	0.15	0.46	-0.19 - 0.41	
			PC10	0.05	0.16	0.77	-0.27 - 0.36	
			cohort	-0.16	0.16	0.31	-0.48 - 0.15	
			sex	-0.13	0.16	0.40	-0.45 - 0.18	
			batch	0.01	0.16	0.94	-0.30 - 0.33	
		Anxiety	anxiety	0.39	0.15	0.01	0.09 - 0.69	*
			PC1	0.09	0.15	0.57	-0.21 - 0.39	
			PC2	0.06	0.16	0.71	-0.25 - 0.36	
			PC3	0.13	0.16	0.39	-0.18 - 0.44	
			PC4	-0.24	0.15	0.12	-0.54 - 0.06	
			PC5	-0.23	0.16	0.15	-0.54 - 0.08	
			PC6	0.01	0.16	0.93	-0.29 - 0.32	
			PC7	0.25	0.16	0.12	-0.07 - 0.56	
			PC8	-0.17	0.16	0.30	-0.49 - 0.15	
			PC9	0.12	0.15	0.43	-0.18 - 0.42	
			PC10	0.05	0.16	0.77	-0.26 - 0.36	
			cohort	-0.17	0.16	0.28	-0.48 - 0.14	
			sex	-0.12	0.16	0.44	-0.44 - 0.19	
			batch	0.01	0.16	0.95	-0.31 - 0.33	
		ASD	ASD	0.70	0.15	0.00	0.40 - 0.99	*
			PC1	0.05	0.15	0.76	-0.26 - 0.35	
			PC2	0.05	0.16	0.77	-0.26 - 0.35	
			PC3	0.12	0.16	0.45	-0.19 - 0.43	
		PC4	-0.23	0.15	0.13	-0.53 - 0.07		

Figure 1

	PC5	-0.22	0.16	0.16	-0.53 - 0.09	
	PC6	0.02	0.16	0.89	-0.29 - 0.33	
	PC7	0.24	0.16	0.13	-0.07 - 0.56	
	PC8	-0.15	0.16	0.34	-0.47 - 0.16	
	PC9	0.10	0.15	0.50	-0.20 - 0.40	
	PC10	0.04	0.16	0.80	-0.27 - 0.35	
	cohort	-0.16	0.16	0.32	-0.47 - 0.15	
	sex	-0.14	0.16	0.39	-0.45 - 0.17	
	batch	0.02	0.16	0.91	-0.30 - 0.33	
Bipolar disorder	BIP	0.36	0.16	0.02	0.05 - 0.67	
	PC1	0.11	0.15	0.47	-0.19 - 0.41	
	PC2	0.03	0.16	0.85	-0.28 - 0.34	
	PC3	0.13	0.16	0.42	-0.18 - 0.44	
	PC4	-0.23	0.15	0.13	-0.53 - 0.07	
	PC5	-0.23	0.16	0.14	-0.54 - 0.07	
	PC6	0.01	0.16	0.93	-0.29 - 0.32	
	PC7	0.24	0.16	0.13	-0.07 - 0.56	
	PC8	-0.17	0.16	0.30	-0.48 - 0.15	
	PC9	0.11	0.15	0.48	-0.19 - 0.41	
	PC10	0.05	0.16	0.76	-0.26 - 0.36	
	cohort	-0.16	0.16	0.31	-0.48 - 0.15	
	sex	-0.14	0.16	0.40	-0.45 - 0.18	
	batch	0.00	0.16	0.98	-0.31 - 0.32	
BMI	BMI	0.57	0.15	0.00	0.26 - 0.87	*
	PC1	0.10	0.15	0.53	-0.20 - 0.40	
	PC2	0.06	0.16	0.71	-0.25 - 0.36	
	PC3	0.14	0.16	0.39	-0.17 - 0.45	
	PC4	-0.23	0.15	0.14	-0.53 - 0.07	
	PC5	-0.23	0.16	0.14	-0.54 - 0.08	
	PC6	0.01	0.16	0.96	-0.30 - 0.32	
	PC7	0.25	0.16	0.12	-0.07 - 0.56	
	PC8	-0.15	0.16	0.35	-0.47 - 0.16	
	PC9	0.13	0.15	0.41	-0.17 - 0.43	
	PC10	0.02	0.16	0.90	-0.29 - 0.33	
	cohort	-0.15	0.16	0.34	-0.47 - 0.16	
	sex	-0.13	0.16	0.41	-0.44 - 0.18	
	batch	0.01	0.16	0.95	-0.31 - 0.33	
Depressive symptoms	depression	0.28	0.16	0.08	-0.03 - 0.59	
	PC1	0.09	0.15	0.54	-0.21 - 0.40	
	PC2	0.05	0.16	0.73	-0.25 - 0.36	
	PC3	0.13	0.16	0.41	-0.18 - 0.44	
	PC4	-0.24	0.15	0.11	-0.54 - 0.06	
	PC5	-0.23	0.16	0.14	-0.54 - 0.08	
	PC6	0.02	0.16	0.92	-0.29 - 0.33	
	PC7	0.25	0.16	0.12	-0.06 - 0.57	
	PC8	-0.16	0.16	0.32	-0.48 - 0.16	
	PC9	0.10	0.15	0.51	-0.20 - 0.40	
	PC10	0.05	0.16	0.73	-0.26 - 0.37	
	cohort	-0.15	0.16	0.34	-0.47 - 0.16	
	sex	-0.13	0.16	0.41	-0.44 - 0.18	
	batch	0.01	0.16	0.96	-0.31 - 0.32	
Educational attainment	EA3	-0.31	0.16	0.05	-0.62 - 0.00	
	PC1	0.08	0.15	0.61	-0.22 - 0.38	
	PC2	0.08	0.16	0.59	-0.22 - 0.39	
	PC3	0.14	0.16	0.39	-0.17 - 0.45	
	PC4	-0.25	0.15	0.11	-0.55 - 0.05	

Figure 1

	PC5	-0.23	0.16	0.14	-0.54 - 0.08	
	PC6	0.03	0.16	0.87	-0.28 - 0.33	
	PC7	0.24	0.16	0.13	-0.07 - 0.56	
	PC8	-0.17	0.16	0.29	-0.49 - 0.15	
	PC9	0.11	0.15	0.46	-0.19 - 0.42	
	PC10	0.05	0.16	0.77	-0.26 - 0.36	
	cohort	-0.16	0.16	0.32	-0.47 - 0.16	
	sex	-0.13	0.16	0.43	-0.44 - 0.19	
	batch	0.02	0.16	0.89	-0.29 - 0.34	
Height	height	-0.12	0.16	0.44	-0.43 - 0.19	
	PC1	0.08	0.15	0.62	-0.23 - 0.38	
	PC2	0.05	0.16	0.74	-0.25 - 0.36	
	PC3	0.13	0.16	0.40	-0.18 - 0.44	
	PC4	-0.24	0.15	0.12	-0.54 - 0.06	
	PC5	-0.22	0.16	0.15	-0.53 - 0.08	
	PC6	0.02	0.16	0.90	-0.29 - 0.33	
	PC7	0.24	0.16	0.13	-0.07 - 0.56	
	PC8	-0.16	0.16	0.31	-0.48 - 0.15	
	PC9	0.11	0.15	0.47	-0.19 - 0.41	
	PC10	0.05	0.16	0.73	-0.26 - 0.37	
	cohort	-0.16	0.16	0.31	-0.48 - 0.15	
	sex	-0.14	0.16	0.39	-0.45 - 0.18	
	batch	0.01	0.16	0.94	-0.30 - 0.33	
Income	income	-0.44	0.16	0.01	-0.74 - -0.13	*
	PC1	0.09	0.15	0.55	-0.21 - 0.39	
	PC2	0.06	0.16	0.70	-0.25 - 0.36	
	PC3	0.14	0.16	0.39	-0.17 - 0.45	
	PC4	-0.25	0.15	0.11	-0.55 - 0.05	
	PC5	-0.22	0.16	0.16	-0.53 - 0.09	
	PC6	0.03	0.16	0.87	-0.28 - 0.33	
	PC7	0.24	0.16	0.14	-0.08 - 0.55	
	PC8	-0.17	0.16	0.30	-0.49 - 0.15	
	PC9	0.11	0.15	0.49	-0.20 - 0.41	
	PC10	0.06	0.16	0.71	-0.25 - 0.37	
	cohort	-0.16	0.16	0.33	-0.47 - 0.16	
	sex	-0.13	0.16	0.41	-0.44 - 0.18	
	batch	0.02	0.16	0.89	-0.29 - 0.34	
Insomnia	insomnia	0.18	0.16	0.24	-0.12 - 0.49	
	PC1	0.08	0.15	0.58	-0.22 - 0.39	
	PC2	0.06	0.16	0.71	-0.25 - 0.36	
	PC3	0.13	0.16	0.40	-0.18 - 0.44	
	PC4	-0.24	0.15	0.11	-0.54 - 0.06	
	PC5	-0.22	0.16	0.16	-0.53 - 0.09	
	PC6	0.02	0.16	0.91	-0.29 - 0.33	
	PC7	0.24	0.16	0.13	-0.07 - 0.55	
	PC8	-0.17	0.16	0.30	-0.48 - 0.15	
	PC9	0.12	0.15	0.45	-0.19 - 0.42	
	PC10	0.05	0.16	0.77	-0.27 - 0.36	
	cohort	-0.16	0.16	0.32	-0.47 - 0.15	
	sex	-0.13	0.16	0.41	-0.44 - 0.18	
	batch	0.01	0.16	0.96	-0.31 - 0.32	
IQ	IQ	-0.03	0.16	0.86	-0.35 - 0.29	
	PC1	0.09	0.16	0.58	-0.22 - 0.39	
	PC2	0.06	0.16	0.69	-0.24 - 0.37	
	PC3	0.13	0.16	0.40	-0.18 - 0.44	
	PC4	-0.24	0.15	0.12	-0.54 - 0.06	
	PC5	-0.23	0.16	0.15	-0.54 - 0.08	

Figure 1

	PC6	0.02	0.16	0.89	-0.29 - 0.33	
	PC7	0.24	0.16	0.13	-0.07 - 0.55	
	PC8	-0.17	0.16	0.30	-0.48 - 0.15	
	PC9	0.11	0.15	0.46	-0.19 - 0.42	
	PC10	0.05	0.16	0.76	-0.26 - 0.36	
	cohort	-0.16	0.16	0.32	-0.47 - 0.15	
	sex	-0.13	0.16	0.40	-0.45 - 0.18	
	batch	0.01	0.16	0.94	-0.30 - 0.33	
Irritability	irritability	0.58	0.16	0.00	0.27 - 0.90	*
	PC1	0.10	0.15	0.52	-0.20 - 0.40	
	PC2	0.06	0.16	0.71	-0.25 - 0.36	
	PC3	0.13	0.16	0.42	-0.18 - 0.44	
	PC4	-0.27	0.15	0.08	-0.57 - 0.03	
	PC5	-0.23	0.16	0.15	-0.53 - 0.08	
	PC6	0.02	0.16	0.87	-0.28 - 0.33	
	PC7	0.26	0.16	0.10	-0.05 - 0.58	
	PC8	-0.18	0.16	0.27	-0.50 - 0.14	
	PC9	0.10	0.15	0.50	-0.20 - 0.41	
	PC10	0.06	0.16	0.72	-0.25 - 0.37	
	cohort	-0.15	0.16	0.33	-0.47 - 0.16	
	sex	-0.13	0.16	0.41	-0.44 - 0.18	
	batch	0.00	0.16	0.99	-0.31 - 0.32	
Major depressive disorder	MDD	0.56	0.15	0.00	0.26 - 0.87	*
	PC1	0.07	0.15	0.65	-0.23 - 0.37	
	PC2	0.03	0.16	0.87	-0.28 - 0.33	
	PC3	0.13	0.16	0.42	-0.18 - 0.44	
	PC4	-0.24	0.15	0.12	-0.54 - 0.06	
	PC5	-0.23	0.16	0.14	-0.54 - 0.08	
	PC6	0.00	0.16	0.98	-0.31 - 0.31	
	PC7	0.23	0.16	0.15	-0.08 - 0.54	
	PC8	-0.17	0.16	0.31	-0.48 - 0.15	
	PC9	0.10	0.15	0.51	-0.20 - 0.40	
	PC10	0.04	0.16	0.80	-0.27 - 0.35	
	cohort	-0.15	0.16	0.35	-0.46 - 0.16	
	sex	-0.12	0.16	0.43	-0.44 - 0.19	
	batch	0.00	0.16	1.00	-0.32 - 0.31	
Mood swings	mood	0.57	0.16	0.00	0.26 - 0.88	*
	PC1	0.10	0.15	0.52	-0.20 - 0.40	
	PC2	0.05	0.16	0.74	-0.25 - 0.36	
	PC3	0.13	0.16	0.40	-0.18 - 0.44	
	PC4	-0.25	0.15	0.11	-0.55 - 0.05	
	PC5	-0.23	0.16	0.14	-0.54 - 0.08	
	PC6	0.02	0.16	0.90	-0.29 - 0.33	
	PC7	0.27	0.16	0.09	-0.05 - 0.58	
	PC8	-0.18	0.16	0.26	-0.50 - 0.14	
	PC9	0.12	0.15	0.43	-0.18 - 0.42	
	PC10	0.03	0.16	0.83	-0.28 - 0.35	
	cohort	-0.16	0.16	0.30	-0.48 - 0.15	
	sex	-0.13	0.16	0.43	-0.44 - 0.19	
	batch	0.00	0.16	0.98	-0.31 - 0.32	
Neuroticism	neuroticism	0.41	0.16	0.01	0.10 - 0.72	*
	PC1	0.08	0.15	0.60	-0.22 - 0.38	
	PC2	0.06	0.16	0.72	-0.25 - 0.36	
	PC3	0.13	0.16	0.40	-0.18 - 0.44	
	PC4	-0.24	0.15	0.11	-0.54 - 0.06	
	PC5	-0.23	0.16	0.14	-0.54 - 0.08	

Figure 1

	PC6	0.02	0.16	0.88	-0.28 - 0.33	
	PC7	0.26	0.16	0.11	-0.06 - 0.57	
	PC8	-0.17	0.16	0.29	-0.49 - 0.15	
	PC9	0.12	0.15	0.43	-0.18 - 0.42	
	PC10	0.05	0.16	0.75	-0.26 - 0.36	
	cohort	-0.17	0.16	0.30	-0.48 - 0.15	
	sex	-0.13	0.16	0.41	-0.44 - 0.18	
	batch	0.01	0.16	0.96	-0.31 - 0.32	
Obsessive compulsive disorder	OCD	-0.01	0.16	0.95	-0.33 - 0.31	
	PC1	0.08	0.15	0.58	-0.22 - 0.39	
	PC2	0.06	0.16	0.70	-0.25 - 0.37	
	PC3	0.13	0.16	0.40	-0.18 - 0.44	
	PC4	-0.24	0.15	0.12	-0.54 - 0.06	
	PC5	-0.23	0.16	0.15	-0.54 - 0.08	
	PC6	0.02	0.16	0.89	-0.29 - 0.33	
	PC7	0.24	0.16	0.13	-0.07 - 0.55	
	PC8	-0.17	0.16	0.31	-0.48 - 0.15	
	PC9	0.11	0.15	0.46	-0.19 - 0.41	
	PC10	0.05	0.16	0.76	-0.26 - 0.36	
	cohort	-0.16	0.16	0.32	-0.47 - 0.15	
	sex	-0.13	0.16	0.40	-0.45 - 0.18	
	batch	0.01	0.16	0.94	-0.30 - 0.33	
PTSD	PTSD	0.79	0.16	0.00	0.46 - 1.11	*
	PC1	0.08	0.15	0.62	-0.22 - 0.38	
	PC2	0.01	0.16	0.93	-0.29 - 0.32	
	PC3	0.13	0.16	0.41	-0.18 - 0.44	
	PC4	-0.24	0.15	0.11	-0.54 - 0.06	
	PC5	-0.25	0.16	0.11	-0.56 - 0.05	
	PC6	0.02	0.16	0.91	-0.29 - 0.33	
	PC7	0.25	0.16	0.12	-0.07 - 0.56	
	PC8	-0.18	0.16	0.27	-0.50 - 0.14	
	PC9	0.11	0.15	0.46	-0.19 - 0.41	
	PC10	0.03	0.16	0.86	-0.28 - 0.34	
	cohort	-0.15	0.16	0.34	-0.47 - 0.16	
	sex	-0.14	0.16	0.38	-0.45 - 0.17	
	batch	-0.01	0.16	0.96	-0.32 - 0.31	
Risky behaviours	risk	0.55	0.15	0.00	0.25 - 0.85	*
	PC1	0.08	0.15	0.62	-0.23 - 0.38	
	PC2	0.04	0.16	0.77	-0.26 - 0.35	
	PC3	0.13	0.16	0.41	-0.18 - 0.44	
	PC4	-0.24	0.15	0.12	-0.53 - 0.06	
	PC5	-0.23	0.16	0.14	-0.54 - 0.07	
	PC6	0.04	0.16	0.81	-0.27 - 0.35	
	PC7	0.23	0.16	0.15	-0.08 - 0.55	
	PC8	-0.17	0.16	0.28	-0.49 - 0.14	
	PC9	0.10	0.15	0.53	-0.20 - 0.40	
	PC10	0.06	0.16	0.71	-0.25 - 0.37	
	cohort	-0.15	0.16	0.35	-0.46 - 0.16	
	sex	-0.14	0.16	0.39	-0.45 - 0.18	
	batch	0.01	0.16	0.96	-0.31 - 0.32	
Schizophrenia	SCZ	0.44	0.16	0.01	0.13 - 0.75	*
	PC1	0.10	0.15	0.50	-0.20 - 0.41	
	PC2	0.01	0.16	0.96	-0.30 - 0.32	
	PC3	0.13	0.16	0.39	-0.18 - 0.44	
	PC4	-0.23	0.15	0.12	-0.53 - 0.06	
	PC5	-0.22	0.16	0.16	-0.53 - 0.09	

Figure 1

	PC6	0.02	0.16	0.92	-0.29 - 0.32	
	PC7	0.24	0.16	0.13	-0.07 - 0.56	
	PC8	-0.17	0.16	0.30	-0.48 - 0.15	
	PC9	0.11	0.15	0.46	-0.19 - 0.42	
	PC10	0.05	0.16	0.76	-0.26 - 0.36	
	cohort	-0.16	0.16	0.31	-0.48 - 0.15	
	sex	-0.14	0.16	0.40	-0.45 - 0.18	
	batch	-0.01	0.16	0.97	-0.32 - 0.31	
Subjective wellbeing	SWB	-0.48	0.16	0.00	-0.79 - -0.18	*
	PC1	0.07	0.15	0.64	-0.23 - 0.37	
	PC2	0.06	0.16	0.71	-0.25 - 0.36	
	PC3	0.13	0.16	0.42	-0.18 - 0.44	
	PC4	-0.23	0.15	0.13	-0.53 - 0.07	
	PC5	-0.23	0.16	0.15	-0.53 - 0.08	
	PC6	0.03	0.16	0.87	-0.28 - 0.33	
	PC7	0.25	0.16	0.12	-0.07 - 0.56	
	PC8	-0.15	0.16	0.35	-0.47 - 0.17	
	PC9	0.10	0.15	0.50	-0.20 - 0.40	
	PC10	0.05	0.16	0.75	-0.26 - 0.36	
	cohort	-0.17	0.16	0.28	-0.49 - 0.14	
	sex	-0.13	0.16	0.40	-0.45 - 0.18	
	batch	0.00	0.16	0.99	-0.31 - 0.32	
Genetic multivariable						
	ADHD	0.32	0.17	0.06	-0.01 - 0.66	
	anorexia	-0.10	0.16	0.52	-0.41 - 0.21	
	anxiety	0.06	0.17	0.73	-0.27 - 0.39	
	ASD	0.47	0.16	0.00	0.15 - 0.80	*
	BIP	0.17	0.17	0.31	-0.16 - 0.50	
	BMI	0.41	0.16	0.01	0.09 - 0.73	*
	depression	-0.23	0.19	0.23	-0.61 - 0.15	
	EA3	-0.10	0.19	0.59	-0.46 - 0.26	
	height	-0.06	0.16	0.70	-0.38 - 0.25	
	income	-0.30	0.17	0.09	-0.64 - 0.04	
	insomnia	-0.05	0.16	0.74	-0.37 - 0.26	
	IQ	0.19	0.18	0.29	-0.16 - 0.55	
	irritability	0.35	0.20	0.08	-0.04 - 0.75	
	MDD	0.12	0.18	0.51	-0.24 - 0.47	
	mood	0.28	0.23	0.24	-0.18 - 0.73	
	neuroticism	-0.20	0.24	0.42	-0.68 - 0.28	
	OCD	0.02	0.16	0.92	-0.3 - 0.33	
	PTSD	0.56	0.17	0.00	0.23 - 0.89	*
	risk	0.45	0.16	0	0.14 - 0.76	*
	SCZ	0.26	0.17	0.13	-0.08 - 0.59	
	SWB	-0.32	0.16	0.05	-0.64 - 0.00	
	PC1	0.06	0.16	0.69	-0.24 - 0.37	
	PC2	-0.06	0.16	0.69	-0.37 - 0.24	
	PC3	0.11	0.16	0.48	-0.20 - 0.42	
	PC4	-0.23	0.15	0.12	-0.53 - 0.06	
	PC5	-0.22	0.16	0.17	-0.53 - 0.09	
	PC6	0.01	0.16	0.94	-0.29 - 0.32	
	PC7	0.28	0.16	0.08	-0.04 - 0.59	
	PC8	-0.17	0.16	0.29	-0.49 - 0.15	
	PC9	0.09	0.15	0.57	-0.21 - 0.39	
	PC10	0.02	0.16	0.90	-0.29 - 0.33	
	cohort	-0.14	0.16	0.38	-0.45 - 0.17	

		sex	-0.13	0.16	0.41	-0.44 - 0.18	
		batch	-0.02	0.16	0.91	-0.33 - 0.30	
	Environmental univariable						
Figure 2	Pre-school parent-report (age 1-4)	Pre-school parent-report (age 1-4)	1.47	0.17	0.00	1.13 - 1.81	*
		cohort	-0.12	0.16	0.44	-0.43 - 0.19	
		sex	-0.20	0.16	0.20	-0.51 - 0.11	
		batch	0.09	0.16	0.58	-0.22 - 0.40	
	Middle childhood parent-report (age 7-10)	Middle childhood parent-report (age 7-10)	1.93	0.16	0.00	1.61 - 2.25	*
		cohort	-0.05	0.16	0.74	-0.36 - 0.26	
		sex	-0.21	0.16	0.19	-0.51 - 0.10	
		batch	0.02	0.16	0.88	-0.29 - 0.34	
	Middle childhood self-report (age 7-10)	Middle childhood self-report (age 7-10)	1.89	0.19	0.00	1.21 - 2.26	*
		cohort	-0.07	0.16	0.64	-0.36 - 0.34	
		sex	-0.23	0.16	0.15	-0.68 - -0.05	
		batch	0.07	0.16	0.65	-0.31 - 0.33	
	Early adolescence parent-report (age 12-16)	Early adolescence parent-report (age 12-16)	1.74	0.26	0.00	1.51 - 2.28	*
		cohort	-0.01	0.18	0.97	-0.38 - 0.24	
		sex	-0.37	0.16	0.02	-0.54 - 0.08	
		batch	0.01	0.16	0.97	-0.24 - 0.38	
	Early adolescence self-report (age 12-16)	Early adolescence self-report (age 12-16)	2.78	0.18	0.00	2.42 - 3.15	*
		cohort	-0.31	0.16	0.05	-0.62 - -0.01	
		sex	-0.45	0.15	0.00	-0.76 - -0.15	
	batch	0.12	0.16	0.44	-0.19 - 0.43		
	Environmental multivariable						
		Pre-school parent-report (age 1-4)	0.37	0.19	0.06	-0.01 - 0.75	
		Middle childhood parent-report (age 7-10)	0.90	0.21	0.00	0.48 - 1.32	*
		Middle childhood self-report (age 7-10)	0.56	0.31	0.08	-0.06 - 1.18	
		Early adolescence parent-report (age 12-16)	0.10	0.24	0.68	-0.37 - 0.57	
		Early adolescence self-report (age 12-16)	2.24	0.21	0.00	1.83 - 2.66	*
		cohort	-0.16	0.15	0.29	-0.47 - 0.14	
		sex	-0.53	0.15	0.00	-0.83 - -0.23	
		batch	0.12	0.16	0.44	-0.19 - 0.43	
	Joint environmental and genetic multivariable						
Figure 3		Pre-school parent-report (age 1-4)	0.35	0.19	0.07	-0.03 - 0.73	
		Middle childhood parent-report (age 7-10)	0.91	0.21	0.00	0.49 - 1.33	*

Figure 3

	Middle childhood self-report (age 7-10)	0.53	0.31	0.10	-0.10 - 1.16	
	Early adolescence parent-report (age 12-16)	0.11	0.24	0.65	-0.37 - 0.59	
	Early adolescence self-report (age 12-16)	2.13	0.21	0.00	1.72 - 2.55	*
	ADHD	0.09	0.17	0.57	-0.23 - 0.42	
	anorexia	-0.05	0.15	0.73	-0.36 - 0.25	
	anxiety	0.00	0.16	0.98	-0.32 - 0.31	
	ASD	0.43	0.16	0.01	0.13 - 0.74	*
	BIP	0.13	0.16	0.41	-0.19 - 0.46	
	BMI	0.18	0.16	0.25	-0.13 - 0.49	
	depression	-0.25	0.19	0.18	-0.62 - 0.12	
	EA3	0.08	0.18	0.64	-0.27 - 0.43	
	height	-0.04	0.16	0.77	-0.35 - 0.26	
	income	-0.20	0.17	0.25	-0.53 - 0.14	
	insomnia	-0.07	0.16	0.67	-0.37 - 0.24	
	IQ	0.21	0.17	0.22	-0.13 - 0.54	
	irritability	0.37	0.19	0.06	-0.01 - 0.75	
	MDD	0.09	0.18	0.59	-0.25 - 0.44	
	mood	0.15	0.22	0.51	-0.29 - 0.58	
	neuroticism	-0.32	0.23	0.17	-0.77 - 0.13	
	OCD	0.06	0.15	0.70	-0.24 - 0.36	
	PTSD	0.46	0.16	0.00	0.15 - 0.77	*
	risk	0.32	0.15	0.04	0.01 - 0.62	
	SCZ	0.31	0.17	0.07	-0.02 - 0.64	
	SWB	-0.17	0.16	0.29	-0.49 - 0.15	
	PC1	0.05	0.15	0.74	-0.25 - 0.35	
	PC2	0.02	0.15	0.89	-0.28 - 0.32	
	PC3	0.13	0.15	0.38	-0.16 - 0.42	
	PC4	-0.21	0.15	0.14	-0.50 - 0.07	
	PC5	-0.19	0.15	0.21	-0.49 - 0.11	
	PC6	-0.06	0.15	0.69	-0.36 - 0.24	
	PC7	0.22	0.15	0.14	-0.08 - 0.53	
	PC8	-0.20	0.15	0.21	-0.50 - 0.11	
	PC9	0.08	0.15	0.59	-0.21 - 0.37	
	PC10	0.01	0.15	0.93	-0.29 - 0.31	
	cohort	-0.14	0.15	0.37	-0.44 - 0.16	
	sex	-0.53	0.15	0.00	-0.83 - -0.23	
	batch	0.08	0.16	0.59	-0.22 - 0.39	

Supplementary Table 6**Multivariable regression analysis of self-reported adulthood trauma**

* = Significant after FDR correction

As a planned control, we assessed the specificity of our findings to retrospectively self-reported childhood trauma, by comparing associations with self-reports of contemporaneous traumas in adulthood. To do so, we repeated the third step of the analysis for the two secondary outcomes, regressing self-reported partner abuse and major life events since age 16 on the polygenic scores and environmental composite scores, in two multivariable linear regression models.

	estimate	standard error	p-value	95% CIS	
Partner abuse					
Pre-school parent-report (age 1-4)	0.48	0.24	0.05	0.01 - 0.95	
Middle childhood parent-report (age 7-10)	0.21	0.25	0.40	-0.28 - 0.71	
Middle childhood self-report (age 7-10)	-0.24	0.35	0.50	-0.93 - 0.45	
Early adolescence parent-report (age 12-16)	-0.08	0.28	0.78	-0.64 - 0.48	
Early adolescence self-report (age 12-16)	2.00	0.27	0.00	1.45 - 2.54	*
ADHD	0.49	0.21	0.02	0.07 - 0.91	
anorexia	-0.10	0.20	0.64	-0.49 - 0.30	
anxiety	0.03	0.21	0.88	-0.38 - 0.45	
ASD	-0.05	0.21	0.82	-0.46 - 0.37	
BIP	0.01	0.21	0.94	-0.40 - 0.43	
BMI	-0.13	0.20	0.53	-0.52 - 0.27	
depression	0.03	0.23	0.91	-0.43 - 0.48	
EA3	-0.52	0.23	0.03	-0.98 - -0.06	
height	-0.18	0.20	0.37	-0.56 - 0.21	
income	-0.05	0.21	0.83	-0.46 - 0.37	
insomnia	0.01	0.20	0.97	-0.38 - 0.4	
IQ	-0.24	0.22	0.28	-0.68 - 0.19	
irritability	-0.17	0.24	0.47	-0.64 - 0.30	
MDD	0.51	0.23	0.03	0.05 - 0.97	
mood	0.41	0.28	0.15	-0.14 - 0.96	
neuroticism	-0.11	0.31	0.71	-0.72 - 0.49	
OCD	0.06	0.20	0.75	-0.32 - 0.45	
PTSD	0.39	0.20	0.05	0.00 - 0.77	
risk	-0.05	0.19	0.79	-0.43 - 0.33	
SCZ	0.51	0.21	0.02	0.10 - 0.93	
SWB	-0.04	0.20	0.83	-0.43 - 0.35	
PC1	0.15	0.20	0.43	-0.23 - 0.54	
PC2	-0.40	0.20	0.04	-0.78 - -0.01	
PC3	-0.05	0.19	0.79	-0.42 - 0.32	
PC4	0.30	0.19	0.11	-0.07 - 0.67	
PC5	-0.01	0.19	0.94	-0.39 - 0.36	
PC6	-0.14	0.20	0.49	-0.52 - 0.25	
PC7	-0.01	0.20	0.97	-0.39 - 0.38	
PC8	0.06	0.19	0.76	-0.32 - 0.43	
PC9	-0.40	0.19	0.04	-0.77 - -0.03	
PC10	0.34	0.19	0.07	-0.03 - 0.71	
cohort	-0.37	0.20	0.06	-0.76 - 0.02	
sex	-0.31	0.19	0.11	-0.69 - 0.07	
batch	-0.21	0.19	0.28	-0.59 - 0.17	
Life events					
Pre-school parent-report (age 1-4)	0.41	0.16	0.01	0.10 - 0.72	*
Middle childhood parent-report (age 7-10)	0.46	0.19	0.01	0.09 - 0.83	

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Middle childhood self-report (age 7-10)	-0.38	0.20	0.07	-0.78 - 0.02	
Early adolescence parent-report (age 12-16)	-0.12	0.18	0.52	-0.48 - 0.24	
Early adolescence self-report (age 12-16)	1.26	0.18	0.00	0.90 - 1.62	*
ADHD	0.19	0.14	0.19	-0.09 - 0.47	
anorexia	-0.03	0.13	0.81	-0.28 - 0.22	
anxiety	0.28	0.14	0.05	-0.01 - 0.56	
ASD	-0.05	0.14	0.70	-0.32 - 0.22	
BIP	0.27	0.14	0.06	-0.01 - 0.54	
BMI	0.32	0.13	0.01	0.07 - 0.57	
depression	0.06	0.15	0.69	-0.23 - 0.35	
EA3	-0.36	0.15	0.02	-0.66 - -0.07	
height	0.00	0.13	0.98	-0.25 - 0.25	
income	-0.12	0.14	0.39	-0.39 - 0.15	
insomnia	-0.18	0.13	0.16	-0.43 - 0.07	
IQ	0.07	0.15	0.65	-0.22 - 0.35	
irritability	0.11	0.16	0.47	-0.2 - 0.42	
MDD	0.34	0.15	0.02	0.05 - 0.63	
mood	0.01	0.19	0.95	-0.36 - 0.38	
neuroticism	0.02	0.21	0.91	-0.38 - 0.43	
OCD	-0.14	0.12	0.25	-0.38 - 0.1	
PTSD	0.26	0.13	0.04	0.01 - 0.51	
risk	0.27	0.13	0.04	0.01 - 0.53	
SCZ	-0.06	0.14	0.65	-0.33 - 0.21	
SWB	0.27	0.13	0.04	0.01 - 0.53	
PC1	-0.25	0.13	0.06	-0.51 - 0.01	
PC2	-0.04	0.13	0.73	-0.3 - 0.21	
PC3	-0.27	0.12	0.03	-0.52 - -0.03	
PC4	-0.13	0.12	0.31	-0.37 - 0.12	
PC5	-0.10	0.12	0.39	-0.34 - 0.13	
PC6	-0.07	0.12	0.57	-0.31 - 0.17	
PC7	-0.11	0.13	0.38	-0.36 - 0.14	
PC8	0.00	0.13	0.99	-0.25 - 0.25	
PC9	-0.08	0.13	0.53	-0.34 - 0.17	
PC10	0.06	0.13	0.66	-0.19 - 0.31	
cohort	-0.54	0.13	0.00	-0.8 - -0.28	
sex	-0.72	0.13	0.00	-0.97 - -0.48	
batch	0.23	0.13	0.07	-0.02 - 0.49	

Self-reported environmental adversity in early adolescence ($\beta=2.00$; 95% CI=1.45, 2.54) was associated with self-reported partner abuse. Parent-reported environmental adversity in pre-school ($\beta=0.41$; 95% CI=0.10, 0.72), and self-reported environmental adversity in early adolescence ($\beta=1.26$; 95% CI=0.90, 1.62) were associated with self-reported major life events. The polygenic scores for educational attainment ($\beta=-0.52$; 95% CI=-0.98, -0.06), MDD ($\beta=0.51$; 95% CI=0.05, 0.97) and schizophrenia ($\beta=0.51$; 95% CI=0.10, 0.93) were the scores most strongly associated with self-reported partner abuse. The polygenic scores for educational attainment ($\beta=-0.36$; 95% CI=-0.66, -0.07), MDD ($\beta=0.34$; 95% CI=0.05, 0.63) and BMI ($\beta=0.32$; 95% CI=0.07, 0.57) were the scores most strongly associated with self-reported major life events. No polygenic scores remained significantly associated with either adulthood trauma after FDR correction for multiple testing.

Supplementary Table 7**Sensitivity analysis with only 'Broad depression' phenotype**

* = Significant after FDR correction

All internalising polygenic scores were removed, and only the 'broad depression' polygenic score derived from a GWAS of UK Biobank participants was included (Howard et al., 2019). The pattern of results were the same, and the polygenic scores for ASD and PTSD remained the only polygenic scores independently associated with self-reported childhood trauma.

	estimate	standard error	p-value	95% CIS	
Genetic multivariable					
ADHD	0.35	0.18	0.05	0.01 - 0.7	
anorexia	-0.07	0.16	0.65	-0.39 - 0.25	
ASD	0.54	0.17	0.00	0.2 - 0.88	*
BIP	0.15	0.17	0.37	-0.18 - 0.47	
BMI	0.44	0.17	0.01	0.11 - 0.77	*
EA3	-0.15	0.19	0.42	-0.53 - 0.22	
height	-0.06	0.16	0.72	-0.38 - 0.26	
income	-0.31	0.17	0.07	-0.64 - 0.02	
IQ	0.20	0.18	0.27	-0.15 - 0.55	
Broad depression	0.08	0.16	0.60	-0.23 - 0.4	
OCD	0.01	0.16	0.93	-0.3 - 0.32	
PTSD	0.60	0.16	0.00	0.28 - 0.92	*
risky behaviours	0.46	0.16	0.00	0.15 - 0.78	*
SCZ	0.26	0.17	0.12	-0.07 - 0.59	
PC1	0.05	0.15	0.73	-0.25 - 0.35	
PC2	-0.05	0.15	0.76	-0.35 - 0.26	
PC3	0.15	0.15	0.34	-0.15 - 0.45	
PC4	-0.19	0.16	0.23	-0.5 - 0.12	
PC5	-0.24	0.15	0.12	-0.54 - 0.07	
PC6	-0.01	0.16	0.94	-0.32 - 0.29	
PC7	0.23	0.15	0.13	-0.07 - 0.53	
PC8	-0.16	0.16	0.31	-0.48 - 0.15	
PC9	0.07	0.16	0.64	-0.23 - 0.38	
PC10	0.03	0.16	0.86	-0.28 - 0.34	
cohort	-0.11	0.16	0.47	-0.42 - 0.19	
sex	-0.11	0.15	0.46	-0.41 - 0.19	
batch	0.01	0.15	0.96	-0.29 - 0.31	
Joint environmental and genetic multivariable					
Pre-school parent-report (age 1-4)	0.32	0.19	0.09	-0.05 - 0.69	
Middle childhood parent-report (age 7-10)	0.92	0.23	0.00	0.47 - 1.37	*
Middle childhood self-report (age 7-10)	0.48	0.32	0.15	-0.17 - 1.13	
Early adolescence parent-report (age 12-16)	0.09	0.23	0.71	-0.37 - 0.55	
Early adolescence self-report (age 12-16)	2.22	0.25	0.00	1.72 - 2.71	*
ADHD	0.14	0.17	0.41	-0.20 - 0.48	
anorexia	-0.04	0.16	0.79	-0.35 - 0.27	
ASD	0.46	0.17	0.01	0.13 - 0.79	*
BIP	0.10	0.16	0.52	-0.21 - 0.41	
BMI	0.21	0.17	0.22	-0.12 - 0.53	
EA3	0.09	0.19	0.63	-0.27 - 0.45	
height	-0.05	0.16	0.73	-0.36 - 0.25	
income	-0.17	0.17	0.31	-0.49 - 0.16	
IQ	0.22	0.17	0.21	-0.12 - 0.55	
Broad depression	0.03	0.15	0.87	-0.28 - 0.33	
OCD	0.05	0.15	0.77	-0.25 - 0.35	

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PTSD	0.44	0.15	0.00	0.14 - 0.73	*
risky behaviours	0.28	0.16	0.09	-0.04 - 0.6	
SCZ	0.34	0.16	0.03	0.03 - 0.65	
PC1	0.04	0.15	0.81	-0.25 - 0.33	
PC2	0.03	0.15	0.83	-0.26 - 0.32	
PC3	0.16	0.15	0.30	-0.14 - 0.45	
PC4	-0.19	0.16	0.23	-0.49 - 0.12	
PC5	-0.21	0.15	0.17	-0.50 - 0.09	
PC6	-0.08	0.15	0.59	-0.38 - 0.22	
PC7	0.21	0.15	0.16	-0.08 - 0.5	
PC8	-0.19	0.16	0.21	-0.50 - 0.11	
PC9	0.06	0.15	0.70	-0.24 - 0.36	
PC10	0.02	0.16	0.91	-0.29 - 0.32	
cohort	-0.13	0.16	0.43	-0.44 - 0.19	
sex	-0.51	0.15	0.00	-0.81 - -0.21	
batch	0.09	0.15	0.55	-0.20 - 0.38	