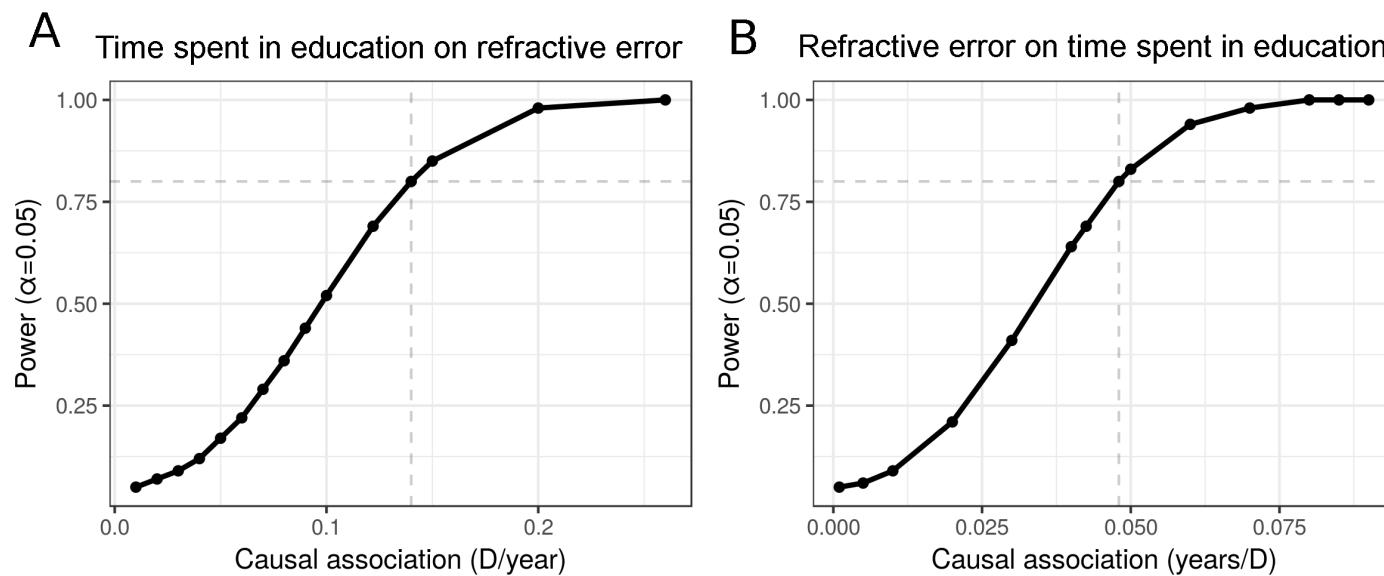


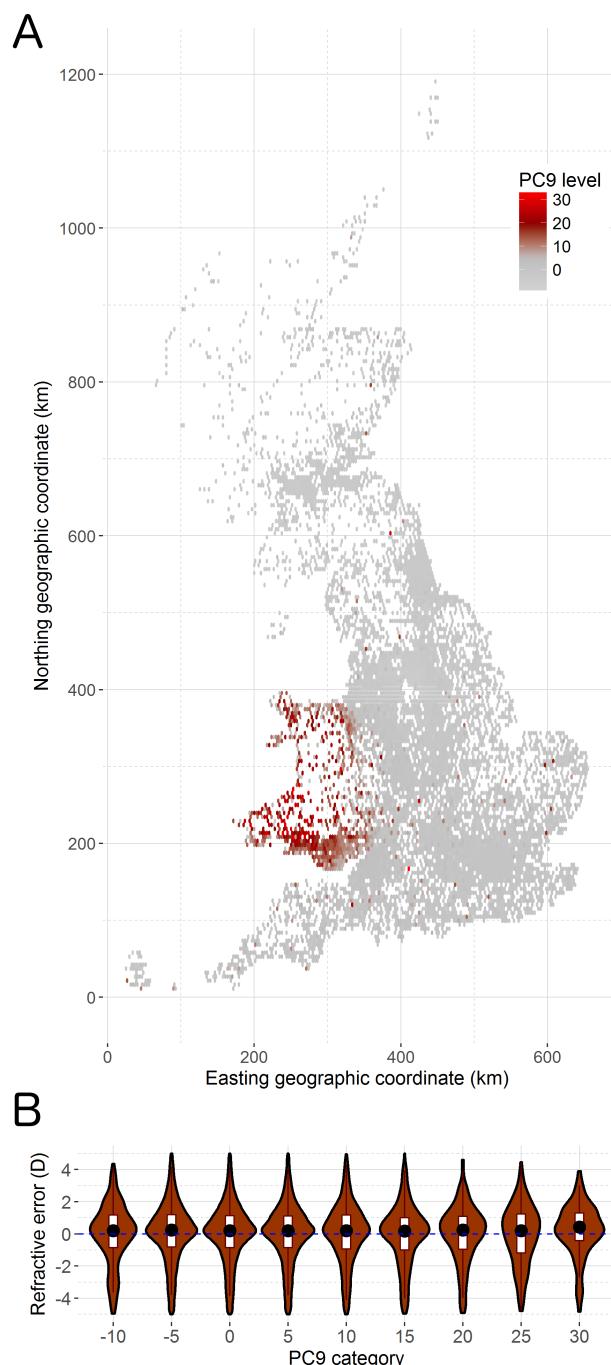
Supplementary Figures and Tables

Supplementary Figure 1. Mendelian randomisation power calculation for the available sample size in UK Biobank

(N=69,798). Causal association of: **(A)** time spent in education (years [yrs]) on refractive error (Dioptries [D]) using allele score with $R^2=0.0073$ (80% power = 0.14 D/yr); and **(B)** refractive error on time spent in education using allele score with $R^2=0.0442$ (80% power = 0.048 yr/D).

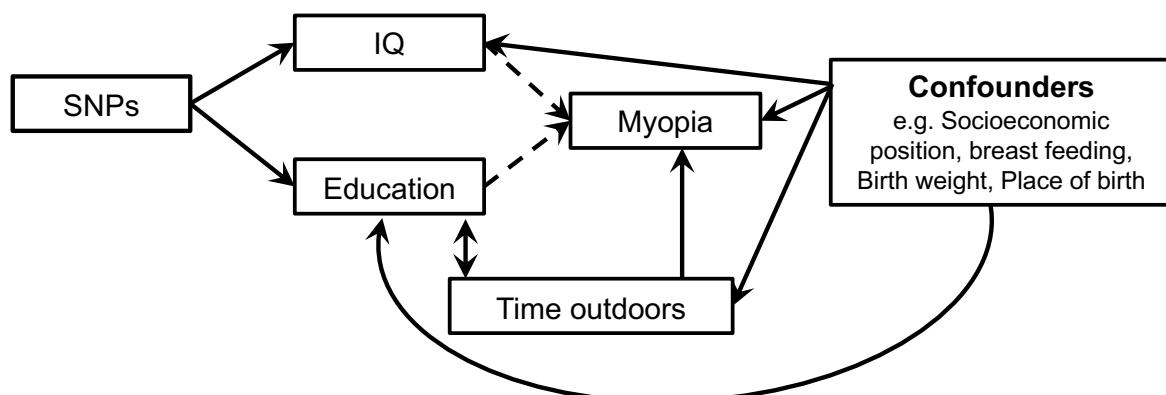


Supplementary Figure 2. Genetic principal component 9 (PC9) is associated with self-reported place-of-birth in Wales and with refractive error. (A) Scatter plot of geographic coordinates for place-of-birth vs. PC9 level. **(B)** Refractive error distribution in Dioptres (D) by PC9 level category. White rectangle shows interquartile range. Black circle shows median.

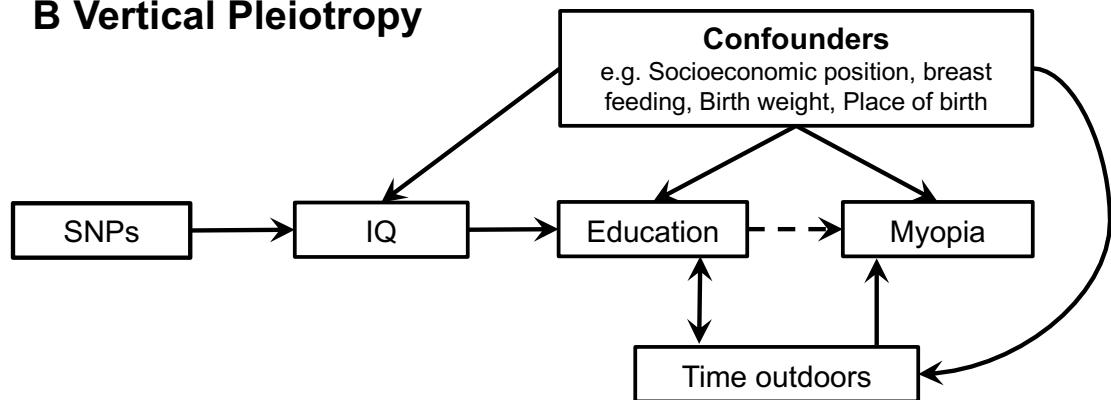


Supplementary Figure 3. Schematic representations of horizontal and vertical pleiotropy in the relationship between the instrumental variables, education and IQ. **(A)** Horizontal pleiotropy could lead to bias in the MR causal estimate, but only if there is a causal path between IQ and myopia. In communities with no formal education system there is a very low prevalence of myopia, making such a causal path between IQ and myopia unlikely. **(B)** Vertical pleiotropy would not lead to bias in the MR causal estimate.

A Horizontal Pleiotropy



B Vertical Pleiotropy



Supplementary Table 1. Baseline characteristics of UK Biobank cohort for refractive error, age completed education and potential confounder variables.

Refractive errors (in Dioptres) were defined as: (i) myopia ≤ 0.75 ; (ii) $-0.75 < \text{emmetropia} < 0.75$; (iii) hypermetropia ≥ 0.75 .

Townsend deprivation index (TDI) was natural log-transformed.

Variable	All (N=69,798)		Myopic (N=21,055)		Emmetropic (N=25,209)		Hypermetropic (N=23,534)	
	Mean or %	SD						
Refractive error (D)	-0.271 (-0.291 to -0.251)	2.679	-3.329 (-3.361 to -3.297)	2.385	0.071 (0.066 to 0.076)	0.400	2.099 (2.081 to 2.117)	1.385
Age completed education (years)	18.15 (18.13 to 18.17)	2.50	18.80 (18.76 to 18.83)	2.39	18.08 (18.05 to 18.11)	2.46	17.66 (17.62 to 17.69)	2.51
Age (years)	57.09 (57.03 to 57.14)	7.81	55.97 (55.86 to 56.07)	7.70	55.14 (55.04 to 55.24)	8.10	60.18 (60.09 to 60.26)	6.56
Sex								
- Male	47.2%	-	47.4%	-	48.6%	-	45.5%	-
- Female	52.8%	-	52.6%	-	51.4%	-	54.5%	-
Birth weight	3.325 (3.320 to 3.330)	0.637	3.310 (3.302 to 3.318)	0.622	3.330 (3.322 to 3.338)	0.628	3.332 (3.324 to 3.340)	0.662
Breastfed								
- Yes	78.6%	-	78.3%	-	87.9%	-	81.6%	-
- No	20.4%	-	20.7%	-	22.1%	-	18.4%	-
Townsend deprivation index	-0.012 (-0.016 to -0.008)	0.495	-0.012 (-0.019 to -0.005)	0.493	-0.005 (-0.011 to 0.001)	0.494	-0.019 (-0.025 to -0.013)	0.499
Northing	3.016e+5 (3.007e+5 to 3.024e+5)	1.135e+5	2.955e+5 (2.030e+5 to 2.971e+5)	1.162e+5	3.015e+5 (3.001e+5 to 3.029e+5)	1.124e+5	3.071e+5 (3.057e+5 to 3.085e+5)	1.121e+5
Easting	4.279e+5 (4.272e+5 to 4.286e+5)	8.911e+4	4.318e+5 (4.305e+5 to 4.330e+5)	9.089e+4	4.318e+5 (4.305e+5 to 4.330e+5)	9.089e+4	4.224e+5 (4.233e+5 to 4.256e+5)	8.869e+4

Supplementary Table 2. Observational (OLS) associations of confounding variables with education and myopia allele scores and outcomes.

Only associations that are concordant with the observational direction of effect between time spent in education and refractive error are shown. These include *northing* and *easting* geographical coordinates, and genetic population stratification principal components 8 and 9.

Exposure	Outcome	N	Beta	SE	P-value
Easting	Refractive error	69797	-1.0e-6 (-1.3e-6 to -8.1e-7)	1.1e-7	<2e-16
Easting	Education	69797	8.9e-7 (6.8e-7 to 1.1e-6)	1.1e-7	<2e-16
Easting	Myopia allele score	69797	3.8e-8 (8.6e-9 to 6.7e-8)	1.5e-8	1e-2
Easting	Education allele score	69797	6.1e-9 (-2.2e-9 to 1.4e-8)	4.2e-9	2e-1
Northing	Education	69797	-1.6e-6 (-1.8e-6 to -1.5e-6)	8.3e-8	<2e-16
Northing	Refractive error	69797	1.2e-6 (9.8e-7 to 1.3e-6)	8.9e-8	<2e-16
Northing	Education allele score	69797	-1.3e-8 (-2.0e-8 to -6.7e-9)	3.3e-9	7e-5
Northing	Myopia allele score	69797	-3.2e-8 (-5.5e-8 to -9.2e-9)	1.2e-8	6e-3
PC8	Education	69798	2.7e-2 (1.7e-2 to 3.7e-2)	4.9e-3	3e-8
PC8	Refractive error	69798	-1.2e-2 (-2.3e-2 to -2.2e-3)	5.2e-3	2e-2
PC8	Education allele score	69798	4.2e-4 (4.2e-5 to 8.1e-4)	1.9e-4	3e-2
PC8	Myopia allele score	69798	1.1e-3 (-2.9e-4 to 2.4e-3)	6.9e-4	1e-1
PC9	Education	69798	-2.1e-2 (-2.5e-2 to -1.7e-2)	2.3e-3	<2e-16
PC9	Education allele score	69798	-3.1e-4 (-4.8e-4 to -1.3e-4)	9.1e-5	8e-4
PC9	Myopia allele score	69798	-7.8e-4 (-1.4e-3 to -1.5e-4)	3.2e-4	2e-2
PC9	Refractive error	69798	5.6e-3 (8.0e-4 to 1.0e-2)	2.4e-3	2e-2

Supplementary Table 3. Causal estimates of time spent in education on refractive error and refractive error on time spent in education using methods implemented in MR-Base and a split sample in UK Biobank.

Exposure	Outcome	Method	N SNPs	Beta	SE	P-value
Time spent in education	Refractive error	MR Egger	67	-0.399	0.125	2e-3
		Weighted median				
		Inverse variance weighted				
		Simple mode				
		Weighted mode				
Refractive error	Time spent in education	MR Egger	43	-0.002	0.057	1
		Weighted median				
		Inverse variance weighted				
		Simple mode				
		Weighted mode				

Supplementary Table 4. Table of MR results from sensitivity analyses using alternative encodings of educational exposure and outcome, additional covariates and England-only restriction.

Instrument	Exposure	Outcome	Covariates	N	TSLS Beta	TSLS SE	TSLS P	Weak instr P	DWH P
Education	Education	Refractive error	sex + age	69798	-0.270 (-0.368 to -0.173)	0.049	4e-8	<2e-16	6e-2
Education	Education (England only)	Refractive error	sex + age	68152	-0.269 (-0.369 to -0.171)	0.050	8e-8	<2e-16	7e-2
Education	Education	Refractive error	sex + age + genechip	69798	-0.270 (-0.368 to -0.173)	0.049	4e-8	<2e-16	6e-2
Education	Education	Refractive error	sex + age + PC1-10	69798	-0.277 (-0.376 to -0.179)	0.050	3e-8	<2e-16	4e-2
Education	Education	Refractive error	sex + age + birthweight	42511	-0.272 (-0.399 to -0.146)	0.064	2e-5	<2e-16	1e-1
Education	Education	Refractive error	sex + age + breastfed	53601	-0.307 (-0.417 to -0.200)	0.055	2e-8	<2e-16	1e-2
Education	Education	Refractive error	sex + age + northing	69797	-0.264 (-0.363 to -0.166)	0.050	1e-7	<2e-16	7e-2
Education	Education	Refractive error	sex + age + easting	69797	-0.268 (-0.366 to -0.171)	0.049	5e-8	<2e-16	6e-2
Education	Education	Refractive error	sex + age + TDI	69737	-0.271 (-0.371 to -0.173)	0.050	6e-8	<2e-16	6e-2
Education	Education (Dichotomised)	Refractive error	sex + age	69798	-0.347 (-0.482 to -0.220)	0.064	-	-	-
Education	Education (No college)	Refractive error	sex + age	45535	-0.228 (-0.479 to 0.018)	0.124	7e-2	<2e-16	5e-1
Myopia	Refractive error	Education	sex + age	69798	-0.008 (-0.041 to 0.025)	0.017	6e-1	<2e-16	<2e-16
Myopia	Refractive error	Education (England only)	sex + age	68152	-0.009 (-0.042 to 0.025)	0.017	6e-1	<2e-16	<2e-16
Myopia	Refractive error	Education (No college)	sex + age	45535	-0.004 (-0.035 to 0.027)	0.016	8e-1	<2e-16	7e-06
Myopia	Refractive error	Education (Dichotomised)	sex + age	69798	0.000 (-0.028 to 0.028)	0.014	-	-	-
Myopia	Refractive error	Education	sex + age + genechip	69798	-0.009 (-0.041 to 0.025)	0.017	6e-1	<2e-16	<2e-16
Myopia	Refractive error	Education	sex + age + PC1-10	69798	-0.011 (-0.044 to 0.022)	0.017	5e-1	<2e-16	<2e-16
Myopia	Refractive error	Education	sex + age + birthweight	42511	0.016 (-0.026 to 0.057)	0.021	5e-1	<2e-16	6e-15
Myopia	Refractive error	Education	sex + age + breastfed	53601	0.007 (-0.030 to 0.044)	0.019	7e-1	<2e-16	<2e-16
Myopia	Refractive error	Education	sex + age + northing	69797	-0.011 (-0.044 to 0.022)	0.017	5e-1	<2e-16	<2e-16
Myopia	Refractive error	Education	sex + age + easting	69797	-0.009 (-0.042 to 0.024)	0.017	6e-1	<2e-16	<2e-16
Myopia	Refractive error	Education	sex + age + TDI	69737	-0.008 (-0.040 to 0.026)	0.017	7e-1	<2e-16	<2e-16

Supplementary Data Table. Genetic variants used as instrumental variables for time spent in education and myopia in this study. Summary statistics are shown for associations with (1) time spent in education/myopia in the original study, (2) time spent in education and refractive error in the full UK Biobank sample, (3) time spent in education and refractive error in the two UK Biobank split sample groups.

Myopia SNPs (Pickrell et al., 2016)

SNPID	Chrom	Pos	Genes	Cyto	Association with myopia in Pickrell et al. (2016)						Association with time spent in education in full UKBB cohort						Association with refractive error in full UKBB cohort						Association with time spent in education in UKBB split sample group A						Association with refractive error in UKBB split sample group A						Association with time spent in education in UKBB split sample group B					
					Pickrell Effect allele	Pickrell Other allele	logOR	logOR_lowerCI	logOR_upperCI	P	UKBB Effect allele	UKBB Other allele	EAF	Beta	SE	P	N	Beta	Se	P	N	Beta	SE	P	N	Beta	SE	P	N	Beta	SE	P	N	Beta	SE	P	N			
1:61341632_T_A	1	61341632	C1orf87[]NFIA	1p31.3	A	T	0.056	-0.070	0.008	13	A	T	0.327	0.005	0.014	01	69798	0.069	0.015	06	69798	0.004	0.020	8.6E-01	34982	-0.091	0.021	1.9E-05	34982	0.007	0.020	7.4E-01	34816	-0.047	0.022	3.0E-02	34816			
1:164213686_C_T	1	164213686	NUF2[]PBX1	1q23.3	C	T	0.077	0.060	0.009	19	T	C	0.242	0.014	0.015	01	69798	0.118	0.017	12	69798	0.048	0.022	2.7E-02	34982	-0.117	0.023	4.5E-07	34982	-0.022	0.022	3.2E-01	34816	-0.118	0.024	5.8E-07	34816			
1:200336075_C_T	1	200336075	NR5A2[]ZNF281	1q32.1	C	T	0.063	0.048	0.008	17	T	C	0.377	0.022	0.014	01	69798	0.088	0.015	09	69798	-0.009	0.019	6.5E-01	34982	-0.093	0.020	4.6E-06	34982	-0.036	0.019	6.3E-02	34816	-0.083	0.021	5.8E-05	34816			
2:45152748_T_C	2	45152748	CAMKMT[]SIX3	2p21	C	T	0.063	0.045	0.009	12	C	T	0.188	0.011	0.017	01	69798	0.062	0.018	04	69798	-0.004	0.024	8.6E-01	34982	0.031	0.026	2.3E-01	34982	-0.017	0.024	4.8E-01	34816	0.094	0.026	2.7E-04	34816			
2:146888708_G_A	2	146888708	[]	2q22.3	A	G	0.068	0.053	0.008	20	A	G	0.442	0.011	0.013	01	69798	0.099	0.014	12	69798	-0.017	0.019	3.7E-01	34982	0.106	0.020	1.0E-07	34982	-0.006	0.019	7.7E-01	34816	0.092	0.020	7.5E-06	34816			
2:157358750_T_A	2	157358750	[GPD2]	2q24.1	A	T	0.059	0.043	0.008	13	A	T	0.697	0.026	0.014	02	69798	0.079	0.015	07	69798	0.042	0.020	4.1E-02	34982	0.072	0.022	9.1E-04	34982	0.009	0.020	6.5E-01	34816	0.086	0.022	9.3E-05	34816			
2:172851936_C_G	2	172851936	HAT1[]METAP1D	2q31.1	C	G	0.067	-0.084	0.009	15	G	C	0.236	0.020	0.015	01	69798	0.090	0.016	08	69798	-0.022	0.022	3.0E-01	34982	0.075	0.023	1.2E-03	34982	-0.018	0.022	4.1E-01	34816	0.105	0.023	7.0E-06	34816			
rs17400325	2	178565913	[PDE11A]	2q31.2	C	T	0.170	-0.206	0.018	21	C	T	0.040	0.006	0.033	01	69798	0.302	0.035	17	69798	-0.020	0.047	6.6E-01	34982	-0.235	0.050	2.5E-06	34982	0.008	0.046	8.7E-01	34816	-0.366	0.050	2.2E-13	34816			
rs1550094	2	233385396	[PRSS56]	2q37.1	A	G	0.097	0.082	0.008	35	A	G	0.692	0.002	0.014	01	69798	0.193	0.015	36	69798	-0.008	0.020	6.9E-01	34982	0.188	0.021	1.7E-18	34982	0.004	0.020	8.4E-01	34816	0.199	0.022	1.0E-19	34816			
3:24268677_C_T	3	24268677	[THR8]	3p24.2	C	T	0.052	-0.066	0.007	12	T	C	0.619	0.007	0.014	01	69798	0.047	0.015	03	69798	-0.028	0.019	1.5E-01	34982	0.043	0.021	3.8E-02	34982	0.013	0.019	4.9E-01	34816	0.051	0.021	1.5E-02	34816			
3:141076084_T_C	3	141076084	[ZBTB38]	3q23	C	T	0.067	0.052	0.008	19	C	T	0.389	0.005	0.013	01	69798	0.071	0.014	07	69798	-0.013	0.019	5.0E-01	34982	0.055	0.020	6.6E-03	34982	0.002	0.019	9.2E-01	34816	0.087	0.021	2.5E-05	34816			
4:80508788_T_C	4	80508788	GK2[]ANTXR2	4q21.21	C	T	0.066	0.050	0.008	15	C	T	0.729	0.023	0.015	01	69798	0.087	0.016	08	69798	0.010	0.021	6.3E-01	34982	0.105	0.023	3.4E-06	34982	0.035	0.021	9.8E-02	34816	0.070	0.023	2.3E-03	34816			
6:28270584_T_C	6	28270584	PGBD1[]ZSCAN31	6p22.1	C	T	0.059	-0.075	0.008	12	C	T	0.299	0.018	0.015	01	69798	0.078	0.016	07	69798	-0.009	0.020	6.5E-01	34982	-0.061	0.022	5.4E-03	34982	-0.027	0.021	1.9E-01	34816	-0.096	0.022	1.9E-05	34816			
6:50809720_T_C	6	50809720	[TFAP2B]	6p12.3	C	T	0.050	0.035	0.007	11	C	T	0.456	0.004	0.013	01	69798	0.064	0.014	06	69798	0.001	0.019	9.6E-01	34982	0.062	0.020	1.9E-03	34982	-0.010	0.019	6.0E-01	34816	0.064	0.020	1.5E-03	34816			
6:73643289_C_A	6	73643289	[KCNQ5]	6q13	A	C	0.124	-0.138	0.007	63	A	C	0.590	0.000	0.013	01	69798	0.219	0.014	52	69798	-0.013	0.019	4.9E-01	34982	-0.204	0.020	7.3E-24	34982	0.012	0.019	5.2E-01	34816	-0.235	0.021	5.1E-30	34816			
rs1064583	6	116446576	[NT5DC1:COL10A1]	6q22.1	A	G	0.054	0.040	0.007	13	G	A	0.402	0.005	0.013	01	69798	0.076	0.014	07	69798	-0.004	0.019	8.5E-01	34982	-0.083	0.020	4.3E-05	34982	-0.005	0.019	7.8E-01	34816	-0.070	0.021	7.1E-04	34816			
rs12193446	6	129820038	[LAMA2]	6q22.33	A	G	0.263	-0.286	0.012	102	G	A	0.092	0.012	0.022	01	69798	0.450	0.024	78	69798	0.021	0.032	5.1E-01	34982	0.450	0.034	6.3E-41	34982	0.450	0.034	1.5E-01	34816							

Education SNPs (Okbay *et al.*, 2016)

RSID	SNPID	Chromosome	Position	Association with time spent in education in Okbay <i>et al.</i> (2016)						Association with time spent in education in full UKBB cohort						Association with refractive error in full UKBB cohort				Association with time spent in education in UKBB split sample group A				Association with refractive error in UKBB split sample group A				Association with time spent in education in UKBB split sample group B									
				Okbay Effect allele	Okbay Other allele	Okbay EAF	Beta	SE	P	UKBB Effect allele	UKBB Other allele	UKBB EAF	Beta	SE	P	N	Beta	SE	P	N	Beta	SE	P	N	Beta	SE	P	N	Beta	SE	P	N					
rs301800	rs301800	1	8490603	T	C	0.1791	0.019	0.003	1.79E-08	C	T	0.824	-0.070	0.017	5.86E-05	69798	-0.010	0.019	5.88E-01	69798	-0.109	0.024	7.2E-06	34982	-0.009	0.026	7.3E-01	34982	-0.029	0.025	2.3E-01	34816	-0.011	0.027	6.9E-01	34816	
rs112108	1:4398257_G	60	4398252	A	T	0.3694	0.017	0.003	2.36E-10	A	G	0.371	0.056	0.014	3.25E-05	69798	-0.031	0.015	3.66E-02	69798	0.043	0.019	2.4E-02	34982	-0.039	0.020	5.8E-02	34982	0.069	0.019	3.3E-04	34816	-0.022	0.021	3.0E-01	34816	
rs343053		71	7273361	A	G	0.08769	0.035	0.005	3.76E-14	A	G	0.098	0.064	0.022	3.16E-03	69798	-0.018	0.023	4.29E-01	69798	0.079	0.031	1.0E-02	34982	-0.013	0.033	6.9E-01	34982	0.049	0.031	1.1E-01	34816	-0.024	0.033	4.8E-01	34816	
rs256895	1:72762169_T	5	7276216	C	T	0.2369	-0.017	0.003	1.80E-08	C	T	0.741	0.054	0.016	6.66E-04	69798	-0.068	0.017	7.23E-05	69798	0.026	0.022	2.5E-01	34982	-0.074	0.024	2.0E-03	34982	0.082	0.022	2.6E-04	34816	-0.060	0.024	1.3E-02	34816	
rs100807	1:91189731_C	8	9118973	T	C	0.3731	-0.016	0.003	6.01E-10	T	C	0.390	-0.057	0.013	2.29E-05	69798	0.048	0.014	8.16E-04	69798	-0.064	0.019	7.6E-04	34982	0.053	0.020	9.0E-03	34982	-0.050	0.019	8.4E-03	34816	0.044	0.021	3.3E-02	34816	
rs115888	1:204587047_G	57	2045870	A	G	0.209	0.02	0.003	5.27E-10	A	G	0.208	0.053	0.016	1.05E-03	69798	-0.020	0.017	2.51E-01	69798	0.057	0.023	1.2E-02	34982	-0.003	0.024	9.0E-01	34982	0.048	0.023	3.5E-02	34816	-0.038	0.025	1.2E-01	34816	
rs177782	1:211613114_G	7	2116131	A	G	0.569	0.015	0.003	1.55E-08	A	G	0.594	0.013	0.013	3.17E-01	69798	-0.001	0.014	9.45E-01	69798	0.030	0.019	1.1E-01	34982	0.002	0.020	9.2E-01	34982	-0.003	0.019	8.6E-01	34816	-0.004	0.021	8.3E-01	34816	
rs299263	1:243503764_A	2	2435037	T	A	0.6604	0.017	0.003	8.23E-09	T	A	0.289	-0.046	0.015	1.60E-03	69798	0.011	0.016	4.93E-01	69798	-0.044	0.021	3.6E-02	34982	-0.008	0.022	7.2E-01	34982	-0.049	0.021	1.7E-02	34816	0.030	0.022	1.8E-01	34816	
rs760763	2:10977585_C	31	1097758	T	C	0.09328	0.02	0.004	3.63E-08	T	C	0.121	0.053	0.020	8.67E-03	69798	0.027	0.022	2.05E-01	69798	0.019	0.028	5.0E-01	34982	0.058	0.030	5.2E-02	34982	0.086	0.028	2.6E-03	34816	-0.005	0.031	8.8E-01	34816	
rs116892	2:15621917_C	69	1562191	G	C	0.306	0.016	0.003	1.28E-08	G	C	0.668	-0.024	0.014	9.40E-02	69798	-0.012	0.015	4.38E-01	69798	-0.037	0.020	6.1E-02	34982	-0.003	0.021	8.9E-01	34982	-0.010	0.020	6.3E-01	34816	-0.020	0.022	3.4E-01	34816	
rs160697	2:51873599_A	4	5187359	G	A	0.1101	0.022	0.004	2.80E-08	G	A	0.880	-0.046	0.020	2.08E-02	69798	0.044	0.021	3.58E-02	69798	-0.020	0.028	4.8E-01	34982	0.065	0.030	2.9E-02	34982	-0.072	0.028	9.6E-03	34816	0.023	0.030	4.5E-01	34816	
rs116901	2:57387094_A	72	5738709	G	A	0.6119	0.015	0.003	1.99E-08	G	A	0.402	-0.021	0.013	1.16E-01	69798	-0.011	0.014	4.66E-01	69798	-0.039	0.019	3.9E-02	34982	-0.019	0.020	3.4E-01	34982	-0.003	0.019	8.6E-01	34816	-0.001	0.021	9.5E-01	34816	
rs245766	2:60757419_C	0	6075741	T	C	0.6063	-0.017	0.003	7.11E-10	T	C	0.633	-0.040	0.014	3.81E-03	69798	0.019	0.015	1.96E-01	69798	-0.034	0.019	8.3E-02	34982	0.017	0.021	4.2E-01	34982	-0.047	0.019	1.6E-02	34816	0.022	0.021	3.0E-01	34816	
rs104960		rs10496091	91	6148226	A	G	0.2705	-0.018	0.003	5.62E-10	A	G	0.277	-0.039	0.015	8.31E-03	69798	-0.027	0.016	8.54E-02	69798	-0.050	0.021	1.6E-02	34982	-0.047	0.022	3.4E-02	34982	-0.027	0.021	1.9E-01	34816	-0.007	0.023	7.5E-01	34816
rs134029	2:100333377_T	08	1003333	C	T	0.5056	-0.018	0.003	1.70E-11	C	T	0.525	0.036	0.013	6.28E-03	69798	0.016	0.014	2.48E-01	69798	0.035	0.019	6.1E-02	34982	0.029	0.020	1.5E-01	34982	0.037	0.019	5.1E-02	34816	0.003	0.020	8.7E-01	34816	
rs485125	2:100753490_C	1	1007534	T	C	0.2537	-0.017	0.003	1.91E-08	T	C	0.268	-0.031	0.015	3.94E-02	69798	0.008	0.016	6.33E-01	69798	-0.011	0.021	5.8E-01	34982	0.009	0.022	6.8E-01	34982	-0.050	0.021	1.8E-02	34816	0.007	0.023	7.7E-01	34816	
rs129876	2:100821548_C	62	1008215	A	C	0.3787	0.027	0.003	2.69E-24	A	C	0.393	0.067	0.013	6.47E-07	69798	-0.012	0.014	4.02E-01	69798	0.065	0.019	6.8E-04	34982	0.004	0.020	8.4E-01	34982	0.069	0.019	3.0E-04	34816	-0.030	0.021	1.5E-01	34816	
rs178242	2:144152539_T	47	1441525	C	T	0.5802	-0																														

