

## **Supplementary Material**

Table S1. List of variables from the UK Biobank used in this study.

<b>Characteristic</b>	<b>Variable ID in UK Biobank</b>	<b>URL</b>
Neuroticism	20127	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=20127">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=20127</a>
Health rating	2178	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=2178">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=2178</a>
Age (years)	21003	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=21003">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=21003</a>
Gender	31	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=31">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=31</a>
Current smoker	20116	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=20116">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=20116</a>
< 5 portions of fruit / vegetables per day	1289	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1289">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1289</a>
	1299	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1299">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1299</a>
	1309	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1309">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1309</a>
Alcohol daily or almost daily	1558	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1558">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=1558</a>
Types of physical activity in last 4 weeks	6164	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6164">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6164</a>
BMI (kg/m <sup>2</sup> )	21001	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=21001">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=21001</a>
Systolic blood pressure (mm Hg)	4080	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=4080">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=4080</a>
Grip strength (kg)	46	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=46">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=46</a>
	47	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=47">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=47</a>
FEV1 (litres)	3063	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=3063">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=3063</a>
Reaction time (ms)	20023	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=20023">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=20023</a>
Vascular or heart problems	6150	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6150">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6150</a>
Diabetes	2443	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=2443">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=2443</a>
Asthma	6152	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152</a>
Chronic Lung disease	6152	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152</a>
Cancer	2453	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=2453">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=2453</a>
Deep vein thrombosis	6152	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152</a>
Pulmonary embolism	6152	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6152</a>
University degree	6138	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6138">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=6138</a>
Townsend index	189	<a href="http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=189">http://biobank.ctsu.ox.ac.uk/crystal/field.cgi?id=189</a>

Table S2. Results of Cox proportional hazard regression between neuroticism and all-cause mortality, stratified by self-reported health.

<b>Health rating strata</b>	<b>Covariates</b>	<b>HR [95% CI]</b>	<b>P</b>
All	Age, sex	1.03 [1.02 – 1.04]	$<1 \times 10^{-16}$
	All covariates	0.99 [0.98-1.00]	0.05
Excellent	Age, sex	0.99 [0.98 – 1.03]	0.52
	All covariates	0.99 [0.96 – 1.02]	0.38
Good	Age, sex	0.99 [0.98 – 1.00]	0.17
	All covariates	0.98 [0.97-1.00]	0.01
Fair	Age, sex	0.97 [0.96 – 0.98]	$1.60 \times 10^{-08}$
	All covariates	0.97 [0.95 – 0.99]	$7.7 \times 10^{-04}$
Poor	Age, sex	0.97 [0.96 – 0.98]	$2.10 \times 10^{-05}$
	All covariates	0.96 [0.93 – 0.98]	$7.3 \times 10^{-04}$

Table S3. Results of Linear/Logistic regression between neuroticism and all other covariates analysed by Gale et al, stratified by self-reported health.

**Current smoker**

Health rating strata	n	OR	SE	P
All	259,969	1.070	0.002	$<1 \times 10^{-300}$
Excellent	48,483	1.039	0.006	$5.27 \times 10^{-11}$
Good	151,304	1.026	0.003	$8.09 \times 10^{-26}$
Fair	49,549	1.025	0.003	$5.61 \times 10^{-16}$
Poor	10,633	1.045	0.006	$4.20 \times 10^{-14}$

**Fruit and vegetable portions**

Health rating strata	n	OR	SE	P
All	400,685	0.976	0.001	$1.68 \times 10^{-95}$
Excellent	71,268	0.987	0.003	$2.05 \times 10^{-5}$
Good	233,047	0.985	0.002	$1.44 \times 10^{-20}$
Fair	79,177	0.981	0.003	$4.07 \times 10^{-14}$
Poor	17,193	0.983	0.005	$9.67 \times 10^{-4}$

**Alcohol**

Health rating strata	n	Beta	SE	P
All	400,508	-0.020	0.0007	$3.55 \times 10^{-158}$
Excellent	71,253	0.007	0.002	$1.27 \times 10^{-4}$
Good	232,975	0.001	0.001	0.225
Fair	79,116	0.002	0.002	0.311
Poor	17,164	0.009	0.004	0.016

**Amount of physical activity**

Health rating strata	n	Beta	SE	P
All	400,448	-0.019	0.0003	$<1 \times 10^{-300}$
Excellent	71,257	-0.008	0.0008	$2.96 \times 10^{-26}$
Good	232,959	-0.007	0.0004	$7.70 \times 10^{-64}$
Fair	79,092	-0.006	0.0008	$3.81 \times 10^{-12}$
Poor	17,140	-0.007	0.002	0.003

**BMI**

Health rating strata	n	Beta	SE	P
All	398,636	0.035	0.002	$5.62 \times 10^{-50}$
Excellent	71,091	-0.063	0.005	$1.98 \times 10^{-40}$
Good	232,217	-0.079	0.003	$5.74 \times 10^{-161}$
Fair	78,536	-0.118	0.006	$5.78 \times 10^{-97}$
Poor	16,792	-0.055	0.015	$1.74 \times 10^{-4}$

**Systolic blood pressure**

Health rating strata	n	Beta	SE	P
All	373,520	-0.217	0.009	$1.23 \times 10^{-119}$
Excellent	65,888	-0.254	0.025	$2.56 \times 10^{-24}$
Good	217,670	-0.290	0.013	$8.01 \times 10^{-113}$
Fair	74,006	-0.316	0.020	$8.24 \times 10^{-55}$
Poor	15,956	-0.236	0.043	$6.04 \times 10^{-8}$

**Grip strength (left hand)**

Health rating strata	n	Beta	SE	P
All	398,503	-0.243	0.004	$<1 \times 10^{-300}$
Excellent	71,019	-0.147	0.010	$2.38 \times 10^{-53}$
Good	231,999	-0.136	0.005	$3.95 \times 10^{-168}$
Fair	78,592	-0.143	0.008	$3.07 \times 10^{-63}$
Poor	16,893	-0.173	0.021	$2.99 \times 10^{-16}$

**Grip strength (right hand)**

Health rating strata	n	Beta	SE	P
All	398,548	-0.243	0.004	$<1 \times 10^{-300}$
Excellent	71,024	-0.162	0.010	$4.23 \times 10^{-64}$
Good	232,027	-0.139	0.005	$2.95 \times 10^{-173}$
Fair	78,565	-0.136	0.009	$1.81 \times 10^{-57}$
Poor	16,932	-0.124	0.021	$1.84 \times 10^{-9}$

**FEV1**

Health rating strata	n	Beta	SE	P
All	362,785	-0.008	0.0003	1.54 x 10 <sup>-158</sup>
Excellent	66,884	-0.0006	0.0008	0.420
Good	213,861	0.0004	0.0004	0.313
Fair	68,742	0.005	0.0007	5.10 x 10 <sup>-12</sup>
Poor	13,298	0.001	0.002	0.393

**Reaction time**

Health rating strata	n	Beta	SE	P
All	397,418	1.561	0.053	2.28 x 10 <sup>-187</sup>
Excellent	70,971	0.432	0.002	0.002
Good	231,491	0.569	0.072	2.06 x 10 <sup>-15</sup>
Fair	78,179	1.184	0.122	3.58 x 10 <sup>-22</sup>
Poor	16,777	2.607	0.203	7.13 x 10 <sup>-18</sup>

**Vascular or health problems**

Health rating strata	n	OR	SE	P
All	400,680	1.060	0.001	<1x10 <sup>-300</sup>
Excellent	71,268	1.029	0.004	2.94 x 10 <sup>-12</sup>
Good	233,043	1.014	0.002	1.13 x 10 <sup>-18</sup>
Fair	79,176	0.997	0.002	0.228
Poor	17,193	1.025	0.005	7.57 x 10 <sup>-8</sup>

**Diabetes**

Health rating strata	n	OR	SE	P
All	399,992	1.041	0.002	1.86 x 10 <sup>-74</sup>
Excellent	71,225	0.994	0.016	0.693
Good	232,755	0.967	0.004	1.43 x 10 <sup>-17</sup>
Fair	78,933	0.955	0.004	2.60 x 10 <sup>-38</sup>
Poor	17,079	0.992	0.006	0.162

### **Asthma**

<b>Health rating strata</b>	<b>n</b>	<b>OR</b>	<b>SE</b>	<b>P</b>
All	340,273	1.050	0.002	$1.32 \times 10^{-231}$
Excellent	62,425	1.035	0.005	$2.39 \times 10^{-12}$
Good	198,649	1.020	0.002	$7.72 \times 10^{-20}$
Fair	65,576	1.011	0.003	$4.33 \times 10^{-4}$
Poor	13,623	1.035	0.006	$3.72 \times 10^{-10}$

### **Chronic lung disease**

<b>Health rating strata</b>	<b>n</b>	<b>OR</b>	<b>SE</b>	<b>P</b>
All	311,065	1.134	0.004	$1.13 \times 10^{-269}$
Excellent	59,237	1.072	0.022	$9.34 \times 10^{-4}$
Good	182,419	1.068	0.007	$1.65 \times 10^{-23}$
Fair	57,751	1.022	0.006	$3.22 \times 10^{-4}$
Poor	11,658	1.058	0.008	$1.00 \times 10^{-12}$

### **Cancer**

<b>Health rating strata</b>	<b>n</b>	<b>OR</b>	<b>SE</b>	<b>P</b>
All	399,819	1.007	0.002	$3.71 \times 10^{-4}$
Excellent	71,199	0.998	0.007	0.788
Good	232,629	0.985	0.003	$1.48 \times 10^{-8}$
Fair	78,914	0.977	0.004	$8.37 \times 10^{-11}$
Poor	17,077	0.954	0.007	$1.80 \times 10^{-13}$

### **Deep vein thrombosis**

<b>Health rating strata</b>	<b>n</b>	<b>OR</b>	<b>SE</b>	<b>P</b>
All	280,183	1.042	0.004	$4.52 \times 10^{-32}$
Excellent	52,905	0.999	0.015	0.915
Good	164,602	0.998	0.006	0.654
Fair	52,477	0.992	0.007	0.226
Poor	10,199	0.982	0.010	0.064

**Pulmonary embolism**

Health rating strata	n	OR	SE	P
All	275,516	1.050	0.006	$2.11 \times 10^{-20}$
Excellent	52,421	1.022	0.025	0.368
Good	162,249	1.002	0.009	0.808
Fair	51,123	0.973	0.010	0.004
Poor	9,723	0.986	0.013	0.287

**University degree**

Health rating strata	n	OR	SE	P
All	397,687	0.948	0.001	$<1 \times 10^{-300}$
Excellent	70,720	0.967	0.003	$1.54 \times 10^{-32}$
Good	231,384	0.973	0.002	$1.55 \times 10^{-76}$
Fair	78,568	0.971	0.003	$2.56 \times 10^{-32}$
Poor	17,015	0.954	0.006	$1.28 \times 10^{-17}$

**Townsend deprivation index**

Health rating strata	n	Beta	SE	P
All	400,195	0.020	0.0005	$<1 \times 10^{-300}$
Excellent	71,182	0.005	0.001	$3.75 \times 10^{-5}$
Good	232,793	0.007	0.0006	$8.32 \times 10^{-25}$
Fair	79,043	0.011	0.001	$6.58 \times 10^{-25}$
Poor	17,177	0.025	0.002	$1.67 \times 10^{-23}$