Mapping the genetic architecture of suicide attempt and suicide death using polygenic risk scores for clinically-related psychiatric disorders and traits

Supplementary Tables

Supplementary Figures

Supplementary Table S1. Detailed description of suicide-related clinical scales and corresponding subjects in this study

The Hamilton Depression Rating Scale (HDRS)[1]

HDRS is the most commonly used instrument for assessing symptoms of depression. The instrument is designed to be administered by clinicians after a structured or unstructured interview of the patient to determine their symptoms. A total score is calculated by summing the individual scores from each question. Scores of 7 or higher generally represent the presence of depression.

Allgemeine Depressions-Skala (ADS)[2,3]

ADS detects depressive symptoms, based on the Center for Epidemiologic Studies Depression Scale. ADS consists of 20 questions, each with four possible answers giving 0–3 points. Resulting scores of 16 or higher are evidence for a depressive episode[3].

Quantitative depression severity score

Merged Z-scores for the above two scales (HDRS and ADS) calculated separately for each site.

Buss-Durkee Hostility Scale (BDHS)[4]

A questionnaire designed to measure a subject's aggression includes the measurement of seven aspects of hostility: assault, indirect hostility, irritability, negativism, resentment, suspicion, and verbal hostility.

Barratt Impulsivity Scale (BIS-10)[5]

A questionnaire designed to assess the personality/behavioral construct of impulsiveness, which is composed of 30 items. In this study, we removed one item- #22 ("I change residences") to merge the data across site.

Brown-Goodwin Aggression History score (BGAH)[6]

The BGAH is an 11-item interview that assesses lifetime aggressive behaviors across two separate stages of life (adolescence and adulthood). In this study, the scores in suicidal behavior cases were significantly higher than controls ($p < 0.001$ by Mann-Whitney U test).

	Non-fatal suicide attempters		Suicide decedents		Controls	
	Obtained	Missing	Obtained	Missing	Obtained	Missing
Quantitative depression severity score	N = 193 (70/123) Age: 41.82 ± 12.26	N = 67 (26/41) Age: 41.96 ± 11.55	N/A	All subjects	N/A	All subjects
BDHS	N = 179 (65/114) Age: 41.79 ± 12.02	N = 81 (31/50) Age: 42.00 ± 12.22	N/A	All subjects	N/A	All subjects
BIS-10	N = 186 (**78/108**) Age: 41.15 ± 11.32	N = 74 (**18/56**) Age: 43.62 ± 13.68	N/A	All subjects	N = 340 (156/184) **Age: 53.28 ± 14.68**	N = 534 (280/254) **Age: 26.46 ± 13.21**
BGAH	N = 230 (88/142) Age: 41.79 ± 12.09	N = 30 (8/22) Age: 42.37 ± 12.06	N = 178 (130/48) Age: 46.05 ± 18.22	N = 139 (104/35) Age: 43.84 ± 14.83	N = 417 (215/202) **Age: 52.52 ± 15.44**	N = 457 (221/236) **Age: 22.63 ± 6.87**

N: number of subjects (Male/Female). Age: mean age ± standard deviation. Sex and age distributions were compared by Fisher's exact test for sex and Mann-Whitney U test for age within non-fatal suicide attempters group, suicide decedents group and controls group, respectively. Bold means statistical significant difference ($p < 0.05$) between subjects who completed each clinical scale and those who did not.

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Supplementary Table S2. Demographic and descriptive data of the GWASs used in this study

Trait	Type of phenotype	N cases	N controls	Ethnicity	Reference[a]
Our suicidal dataset					
Suicidal behavior[a]	Binary	577 (Suicide attempt = 260, Suicide death = 317)	866	European	
Psychiatric disorders and insomnia					
Major depressive disorder	Binary	170,756	329,443	European	Howard et al., 2019[1,2]
Bipolar disorder	Binary	20,352	31,358	European	Stahl et al., 2019[3]
Schizophrenia	Binary	33,640	43,456	European	Ripke et al., 2014[4]
Anxiety disorders	Binary	7,016	14,745	European	Otowa et al., 2015[5]
Post Traumatic stress disorder	Binary	5,131	15,092	Trans−ethnic	Duncan et al., 2018[6]
Anorexia nervosa	Binary	16,992	55,525	European	Watson et al., 2019[7]
Attention−deficit hyperactivity disorder	Binary	19,099	34,194	European	Demontis et al., 2019[8]
Autism spectrum disorder	Binary	18,381	27,969	European	Grove et al., 2019[9]

Alzheimer's disease	Binary	17,008	37,154	European	Lambert et al., 2013[10]
Insomnia	Binary	109,402	277,131	European	Jansen et al., 2019[11]
Substance use phenotypes					
Alcohol dependence	Binary	11,569	34,999	European	Walters et al., 2018[12]
Lifetime cannabis use	Binary	43,380	118,702	European	Pasman et al., 2018[13]
Smoking per day	Continuous	38,181		European	Tobacco and Genetics Consortium, 2010[14]
Personality traits					
Neuroticism	Continuous	63,030		European	Genetics of Personality Consortium et al., 2015[15]
Extraversion	Continuous	63,030		European	van den Berg et al., 2016[16]
Aggression	Continuous	18,988		European	Pappa et al., 2015[17]
Anti−social behavior	Continuous	16,400		European	Tielbeek et al., 2017[18]
Risk tolerance	Continuous	466,571		European	Linnér et al., 2019[19]
Sensitivity to environmental stress and adversity (SESA)	Continuous	449,484		European	Nagel et al., 2020[20]

Cognitive abilities				
Educational attainment	Continuous	766,345	European	Lee et al., 2018[21]
Cognitive performance	Continuous	257,828	European	Lee et al., 2018[21]
intelligence quotient (IQ)	Continuous	269,867	European	Savage et al., 2018[22]

[a] We have our own genotyped dataset, which were able to be set as target set in each PRS analysis.

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Supplementary Table S3.   Results of the polygenic risk score analyses setting our GWAS of "suicidal behavior vs. control" as target set

Base	P_T	N of SNPs	R^2	OR	Lower 95%CI	Upper 95%CI	p
Major depressive disorder[1,2]	1E−04	620	9.24E−03	1.296	1.159	1.450	5.50E−06
	0.001	1789	1.03E−02	1.319	1.178	1.476	1.59E−06
	0.01	6369	2.26E−02	1.514	1.347	1.701	3.24E−12
	0.05	16536	2.01E−02	1.483	1.319	1.668	4.24E−11
	0.1	25152	1.95E−02	1.470	1.309	1.651	7.86E−11
	0.2	38309	2.00E−02	1.482	1.318	1.665	4.24E−11
	0.3	48567	1.79E−02	1.452	1.292	1.632	3.85E−10
	0.4	57067	1.74E−02	1.442	1.284	1.620	6.48E−10
	0.5	64349	1.73E−02	1.439	1.281	1.615	7.81E−10
Bipolar disorder[3]	1E−04	326	3.65E−03	1.175	1.053	1.311	3.96E−03
	0.001	1229	7.27E−03	1.256	1.124	1.402	5.33E−05
	0.01	5164	1.20E−02	1.360	1.211	1.528	2.28E−07
	0.05	14877	1.32E−02	1.392	1.235	1.570	6.65E−08
	0.1	23496	1.56E−02	1.445	1.277	1.634	4.57E−09
	0.2	36997	1.71E−02	1.471	1.300	1.665	9.66E−10
	0.3	47609	1.71E−02	1.480	1.305	1.678	9.76E−10
	0.4	56630	1.80E−02	1.490	1.315	1.688	3.87E−10
	0.5	64329	1.79E−02	1.488	1.313	1.685	4.09E−10
Schizophrenia[4]	1E−04	892	8.53E−03	1.285	1.148	1.438	1.23E−05
	0.001	2376	1.31E−02	1.377	1.226	1.547	6.94E−08
	0.01	7458	2.04E−02	1.509	1.337	1.704	3.00E−11
	0.05	18070	1.79E−02	1.468	1.302	1.656	3.68E−10
	0.1	26867	1.86E−02	1.487	1.317	1.681	1.82E−10
	0.2	39932	1.86E−02	1.497	1.322	1.695	1.88E−10
	0.3	50166	1.77E−02	1.486	1.312	1.683	4.46E−10
	0.4	58371	1.82E−02	1.492	1.318	1.690	2.66E−10
	0.5	65602	1.77E−02	1.485	1.311	1.682	4.67E−10
Anxiety disorders[5]	1E−04	58	6.16E−04	1.070	0.957	1.196	2.35E−01
	0.001	398	2.24E−04	0.960	0.859	1.073	4.74E−01
	0.01	2892	1.91E−06	1.004	0.895	1.126	9.47E−01
	0.05	11067	1.44E−05	1.011	0.903	1.131	8.56E−01
	0.1	19277	2.97E−04	1.049	0.937	1.174	4.09E−01
	0.2	32304	2.98E−04	1.048	0.937	1.172	4.08E−01
	0.3	42866	1.23E−04	1.031	0.922	1.153	5.95E−01
	0.4	51272	1.54E−04	1.034	0.925	1.156	5.53E−01

	0.5	58393	1.93E−04	1.039	0.929	1.161	5.06E−01
PTSD[6]	1E−04	84	8.97E−04	1.083	0.971	1.208	1.52E−01
	0.001	538	6.97E−04	1.074	0.961	1.199	2.07E−01
	0.01	3872	5.84E−03	1.234	1.101	1.382	2.87E−04
	0.05	13882	4.40E−03	1.198	1.071	1.339	1.58E−03
	0.1	23401	5.41E−03	1.217	1.090	1.359	4.67E−04
	0.2	38210	4.74E−03	1.202	1.077	1.342	1.04E−03
	0.3	49736	5.18E−03	1.214	1.086	1.356	6.16E−04
	0.4	59217	5.11E−03	1.213	1.085	1.356	6.75E−04
	0.5	66955	4.84E−03	1.206	1.080	1.348	9.24E−04
Anorexia nervosa[7]	1E−04	210	5.75E−05	1.021	0.914	1.139	7.17E−01
	0.001	908	2.77E−03	1.148	1.031	1.278	1.20E−02
	0.01	4375	4.66E−04	1.060	0.949	1.182	3.01E−01
	0.05	13661	7.14E−04	1.075	0.962	1.200	2.01E−01
	0.1	22128	9.35E−04	1.085	0.973	1.211	1.44E−01
	0.2	35530	1.56E−03	1.114	0.996	1.246	5.93E−02
	0.3	46292	1.79E−03	1.124	1.003	1.258	4.35E−02
	0.4	55228	1.94E−03	1.129	1.008	1.264	3.56E−02
	0.5	62907	1.79E−03	1.124	1.004	1.258	4.32E−02
ADHD[8]	1E−04	238	2.21E−03	1.135	1.016	1.268	2.47E−02
	0.001	930	3.00E−03	1.156	1.037	1.288	8.99E−03
	0.01	4343	4.54E−03	1.195	1.072	1.333	1.35E−03
	0.05	13165	3.19E−03	1.166	1.043	1.304	7.13E−03
	0.1	21151	5.41E−03	1.225	1.093	1.372	4.71E−04
	0.2	33452	6.81E−03	1.248	1.117	1.394	9.05E−05
	0.3	43283	6.34E−03	1.237	1.108	1.382	1.58E−04
	0.4	51514	5.90E−03	1.230	1.100	1.374	2.65E−04
	0.5	58472	6.18E−03	1.236	1.106	1.382	1.90E−04
Autism spectrum disorder[9]	1E−04	117	3.13E−04	0.954	0.854	1.064	3.97E−01
	0.001	662	5.05E−06	1.006	0.900	1.124	9.14E−01
	0.01	3590	3.39E−06	1.005	0.897	1.126	9.30E−01
	0.05	11670	1.01E−04	1.029	0.917	1.154	6.31E−01
	0.1	19285	4.66E−04	1.064	0.946	1.197	3.01E−01
	0.2	31540	2.29E−04	1.044	0.930	1.172	4.69E−01
	0.3	41267	8.63E−05	1.026	0.915	1.152	6.56E−01
	0.4	49488	8.99E−05	1.027	0.915	1.152	6.50E−01
	0.5	56688	6.99E−05	1.024	0.912	1.149	6.89E−01
Alzheimer disease[10]	1E−04	174	1.45E−04	1.033	0.925	1.153	5.65E−01
	0.001	611	1.03E−04	1.027	0.920	1.147	6.29E−01
	0.01	3498	2.59E−04	1.044	0.935	1.166	4.43E−01
	0.05	12423	4.36E−04	1.058	0.947	1.181	3.20E−01

	0.1	21016	5.95E-04	1.068	0.956	1.193	2.45E-01
	0.2	34840	7.17E-04	1.076	0.961	1.204	2.02E-01
	0.3	45963	1.11E-03	1.095	0.979	1.226	1.13E-01
	0.4	55347	1.27E-03	1.102	0.985	1.234	9.07E-02
	0.5	63451	1.37E-03	1.106	0.988	1.237	7.89E-02
Insomnia[11]	1E-04	296	1.68E-05	0.989	0.883	1.107	8.42E-01
	0.001	1177	2.24E-05	1.013	0.906	1.133	8.18E-01
	0.01	5036	3.72E-04	1.056	0.942	1.185	3.49E-01
	0.05	14464	2.43E-03	1.147	1.025	1.284	1.68E-02
	0.1	23046	2.18E-03	1.134	1.017	1.265	2.36E-02
	0.2	36280	1.90E-03	1.125	1.009	1.254	3.44E-02
	0.3	46794	1.25E-03	1.100	0.987	1.225	8.59E-02
	0.4	55481	1.15E-03	1.095	0.983	1.221	9.98E-02
	0.5	62983	1.06E-03	1.092	0.979	1.218	1.13E-01
Alcohol dependence[12]	1E-04	56	2.19E-04	0.961	0.859	1.074	4.79E-01
	0.001	457	1.13E-03	1.096	0.980	1.226	1.08E-01
	0.01	3265	2.87E-03	1.156	1.034	1.292	1.06E-02
	0.05	12427	6.92E-03	1.264	1.125	1.421	8.03E-05
	0.1	21352	6.00E-03	1.243	1.107	1.396	2.35E-04
	0.2	35398	5.56E-03	1.235	1.099	1.388	3.99E-04
	0.3	46678	6.18E-03	1.249	1.111	1.403	1.94E-04
	0.4	56058	6.76E-03	1.262	1.122	1.418	9.79E-05
	0.5	63916	6.50E-03	1.255	1.117	1.411	1.33E-04
Lifetime cannabis use[13]	1E-04	164	1.04E-03	1.091	0.977	1.219	1.23E-01
	0.001	786	1.01E-04	1.028	0.919	1.149	6.31E-01
	0.01	4255	1.32E-03	1.101	0.988	1.228	8.25E-02
	0.05	13751	1.60E-03	1.112	0.997	1.239	5.62E-02
	0.1	22542	2.05E-03	1.127	1.011	1.257	3.08E-02
	0.2	36563	2.45E-03	1.141	1.023	1.272	1.82E-02
	0.3	47325	1.68E-03	1.115	1.000	1.242	5.03E-02
	0.4	56445	1.63E-03	1.113	0.998	1.241	5.39E-02
	0.5	64039	1.54E-03	1.110	0.995	1.237	6.05E-02
Smoking per day[14]	1E-04	53	2.49E-04	1.045	0.932	1.173	4.50E-01
	0.001	410	6.09E-04	1.069	0.957	1.195	2.38E-01
	0.01	3088	5.71E-05	1.020	0.916	1.136	7.18E-01
	0.05	11722	6.56E-04	1.070	0.960	1.193	2.21E-01
	0.1	20180	1.15E-03	1.092	0.982	1.216	1.05E-01
	0.2	33984	1.46E-03	1.107	0.993	1.234	6.75E-02
	0.3	45064	9.22E-04	1.084	0.972	1.210	1.46E-01
	0.4	54301	1.16E-03	1.094	0.982	1.219	1.04E-01
	0.5	61959	1.25E-03	1.098	0.985	1.224	9.15E-02

Neuroticism[15]	1E−04	60	7.46E−04	1.075	0.965	1.197	1.91E−01
	0.001	458	5.43E−04	1.062	0.955	1.181	2.65E−01
	0.01	3367	5.97E−04	1.069	0.956	1.194	2.42E−01
	0.05	12458	6.27E−04	1.071	0.957	1.197	2.31E−01
	0.1	21078	6.17E−04	1.069	0.958	1.192	2.35E−01
	0.2	34910	8.95E−04	1.083	0.971	1.207	1.53E−01
	0.3	45961	6.80E−04	1.072	0.961	1.197	2.12E−01
	0.4	54745	6.38E−04	1.070	0.959	1.194	2.27E−01
	0.5	62232	7.33E−04	1.075	0.963	1.200	1.95E−01
Extraversion[16]	1E−04	57	1.25E−07	0.999	0.895	1.115	9.86E−01
	0.001	501	4.02E−04	0.947	0.848	1.058	3.37E−01
	0.01	3347	2.80E−04	0.956	0.857	1.067	4.23E−01
	0.05	12338	2.13E−04	0.962	0.862	1.073	4.85E−01
	0.1	20913	3.63E−05	0.984	0.878	1.101	7.73E−01
	0.2	34576	5.37E−05	0.980	0.875	1.097	7.26E−01
	0.3	45512	2.70E−06	0.995	0.889	1.115	9.37E−01
	0.4	54447	3.07E−05	0.985	0.880	1.102	7.91E−01
	0.5	61885	3.29E−05	0.984	0.879	1.102	7.84E−01
Aggression[17]	1E−04	30	2.87E−04	1.047	0.937	1.170	4.17E−01
	0.001	304	1.57E−04	0.967	0.867	1.079	5.49E−01
	0.01	2513	8.87E−05	1.026	0.919	1.145	6.52E−01
	0.05	9711	1.69E−04	1.036	0.927	1.158	5.34E−01
	0.1	17014	2.87E−05	1.015	0.907	1.135	7.98E−01
	0.2	29088	3.10E−04	1.049	0.938	1.174	3.99E−01
	0.3	39174	6.82E−04	1.075	0.960	1.200	2.12E−01
	0.4	47455	3.77E−04	1.054	0.943	1.177	3.53E−01
	0.5	54434	4.61E−04	1.060	0.949	1.184	3.04E−01
Antisocial behavior[18]	1E−04	34	9.66E−05	1.027	0.919	1.147	6.38E−01
	0.001	347	5.97E−04	1.070	0.955	1.198	2.42E−01
	0.01	2784	1.49E−03	1.112	0.993	1.245	6.54E−02
	0.05	10877	2.41E−03	1.143	1.022	1.278	1.91E−02
	0.1	19126	2.56E−03	1.148	1.026	1.285	1.58E−02
	0.2	32908	3.58E−03	1.178	1.052	1.318	4.37E−03
	0.3	44406	4.74E−03	1.205	1.078	1.347	1.06E−03
	0.4	54053	4.37E−03	1.196	1.070	1.337	1.64E−03
	0.5	62383	3.85E−03	1.183	1.058	1.323	3.10E−03
Risk tolerance[19]	1E−04	462	4.10E−03	1.188	1.064	1.328	2.30E−03
	0.001	1500	2.20E−03	1.133	1.016	1.264	2.49E−02
	0.01	5696	8.53E−04	1.082	0.969	1.209	1.62E−01
	0.05	15506	2.93E−03	1.156	1.035	1.290	9.85E−03
	0.1	24069	2.60E−03	1.146	1.027	1.280	1.50E−02

	0.2	37509	2.32E−03	1.137	1.019	1.268	2.16E−02
	0.3	48068	1.65E−03	1.116	0.999	1.246	5.23E−02
	0.4	56762	1.29E−03	1.102	0.986	1.231	8.62E−02
	0.5	64270	1.45E−03	1.108	0.992	1.238	6.90E−02
SESA[20]	1E−04	608	2.69E−03	1.153	1.030	1.290	1.33E−02
	0.001	1813	7.52E−03	1.264	1.131	1.413	3.85E−05
	0.01	6363	6.48E−03	1.240	1.111	1.384	1.31E−04
	0.05	16420	5.70E−03	1.227	1.097	1.372	3.24E−04
	0.1	25062	6.65E−03	1.248	1.116	1.397	1.07E−04
	0.2	38020	6.99E−03	1.254	1.122	1.403	7.19E−05
	0.3	48280	6.16E−03	1.236	1.106	1.381	1.91E−04
	0.4	56720	6.19E−03	1.236	1.106	1.381	1.85E−04
	0.5	63922	6.35E−03	1.239	1.109	1.385	1.53E−04
Educational attainment[21]	1E−04	2587	3.34E−03	0.857	0.768	0.957	5.91E−03
	0.001	5095	4.90E−03	0.827	0.740	0.925	8.81E−04
	0.01	11600	4.81E−03	0.829	0.741	0.927	9.70E−04
	0.05	23029	6.78E−03	0.803	0.720	0.897	9.43E−05
	0.1	31633	6.98E−03	0.802	0.719	0.894	7.43E−05
	0.2	43819	5.58E−03	0.820	0.735	0.915	3.86E−04
	0.3	52957	5.34E−03	0.824	0.739	0.919	5.14E−04
	0.4	60530	5.16E−03	0.827	0.742	0.922	6.38E−04
	0.5	67082	5.07E−03	0.828	0.743	0.924	7.09E−04
Cognitive performance[21]	1E−04	1316	4.68E−03	0.831	0.744	0.929	1.14E−03
	0.001	3092	6.10E−03	0.810	0.724	0.905	2.09E−04
	0.01	8497	5.60E−03	0.816	0.729	0.913	3.78E−04
	0.05	19103	3.72E−03	0.844	0.753	0.946	3.67E−03
	0.1	27941	3.38E−03	0.853	0.762	0.954	5.55E−03
	0.2	40797	3.30E−03	0.855	0.764	0.956	6.13E−03
	0.3	50617	2.71E−03	0.868	0.776	0.970	1.29E−02
	0.4	58781	2.30E−03	0.878	0.785	0.981	2.19E−02
	0.5	65708	2.18E−03	0.881	0.788	0.985	2.56E−02
IQ[22]	1E−04	1430	2.89E−03	0.869	0.780	0.967	1.03E−02
	0.001	3257	3.68E−03	0.853	0.766	0.950	3.85E−03
	0.01	9021	6.19E−03	0.810	0.725	0.905	1.82E−04
	0.05	20080	3.68E−03	0.847	0.756	0.948	3.80E−03
	0.1	28910	4.84E−03	0.825	0.736	0.924	9.21E−04
	0.2	41946	5.48E−03	0.812	0.724	0.912	4.29E−04
	0.3	51865	5.56E−03	0.811	0.722	0.911	3.93E−04
	0.4	59900	4.95E−03	0.820	0.730	0.921	8.12E−04
	0.5	66610	4.78E−03	0.823	0.733	0.924	1.00E−03

Details of the references are presented in **online Supplementary Table S2**. The amount of variance explained by the

PRS (R^2) is presented on the liability scale at the prevalence rate of suicidal behavior (0.02). P_T: p threshold.

Supplementary Table S4. Results of the polygenic risk score analyses setting GWAS of "non-fatal suicide attempt/suicide death vs. control" as target set

Base	P_t	Suicide attempt						Suicide death					
		N of SNPs	R^2	OR	Lower 95%CI	Upper 95%CI	p	N of SNPs	R^2	OR	Lower 95%CI	Upper 95%CI	p
Major depressive disorder	1E−04	618	1.41E−02	1.376	1.186	1.595	2.45E−05	622	6.54E−03	1.272	1.101	1.469	1.06E−03
	0.001	1788	1.76E−02	1.430	1.232	1.660	2.65E−06	1792	5.62E−03	1.251	1.082	1.446	2.42E−03
	0.01	6366	3.04E−02	1.606	1.378	1.872	1.36E−09	6372	1.66E−02	1.482	1.276	1.722	2.72E−07
	0.05	16536	3.01E−02	1.613	1.381	1.884	1.57E−09	16517	1.19E−02	1.394	1.201	1.618	1.21E−05
	0.1	25128	3.06E−02	1.621	1.388	1.894	1.10E−09	25148	1.21E−02	1.397	1.204	1.619	9.70E−06
	0.2	38242	3.12E−02	1.626	1.393	1.898	7.61E−10	38299	1.17E−02	1.392	1.199	1.615	1.32E−05
	0.3	48537	3.03E−02	1.616	1.384	1.887	1.34E−09	48565	1.03E−02	1.366	1.176	1.586	4.41E−05
	0.4	56999	3.06E−02	1.617	1.385	1.887	1.06E−09	57042	9.86E−03	1.354	1.167	1.571	6.23E−05
	0.5	64294	2.88E−02	1.592	1.365	1.857	3.09E−09	64329	1.02E−02	1.360	1.172	1.577	4.88E−05
Bipolar disorder	1E−04	323	3.49E−03	1.166	1.012	1.344	3.39E−02	324	5.03E−03	1.234	1.069	1.424	4.02E−03
	0.001	1220	7.92E−03	1.263	1.094	1.458	1.47E−03	1218	7.63E−03	1.297	1.123	1.498	4.08E−04
	0.01	5160	1.19E−02	1.351	1.161	1.573	1.04E−04	5166	1.20E−02	1.403	1.207	1.630	1.02E−05
	0.05	14977	9.54E−03	1.324	1.130	1.552	5.05E−04	14997	1.56E−02	1.485	1.272	1.733	5.64E−07
	0.1	23686	1.43E−02	1.415	1.205	1.662	2.26E−05	23696	1.55E−02	1.500	1.279	1.761	6.63E−07
	0.2	37496	1.50E−02	1.430	1.217	1.681	1.42E−05	37507	1.82E−02	1.557	1.324	1.830	8.13E−08
	0.3	48387	1.91E−02	1.503	1.276	1.771	1.12E−06	48386	1.68E−02	1.536	1.305	1.808	2.42E−07
	0.4	57731	1.93E−02	1.501	1.276	1.765	9.47E−07	57723	1.67E−02	1.527	1.300	1.795	2.65E−07
	0.5	65716	1.80E−02	1.478	1.258	1.738	2.14E−06	65673	1.77E−02	1.550	1.318	1.823	1.16E−07
Schizophrenia	1E−04	893	9.89E−03	1.307	1.127	1.515	3.87E−04	890	6.04E−03	1.259	1.091	1.453	1.64E−03
	0.001	2382	1.59E−02	1.417	1.216	1.650	7.98E−06	2383	8.58E−03	1.320	1.141	1.526	1.84E−04
	0.01	7459	1.88E−02	1.468	1.257	1.715	1.32E−06	7462	1.73E−02	1.514	1.297	1.769	1.58E−07

	0.05	18035	1.52E−02	1.411	1.209	1.646	1.24E−05	18077	1.59E−02	1.488	1.275	1.737	4.52E−07
	0.1	26812	1.73E−02	1.451	1.240	1.699	3.51E−06	26848	1.53E−02	1.482	1.268	1.732	7.48E−07
	0.2	39827	1.53E−02	1.424	1.215	1.668	1.21E−05	39982	1.63E−02	1.511	1.289	1.770	3.35E−07
	0.3	50063	1.29E−02	1.384	1.181	1.621	5.72E−05	50162	1.72E−02	1.533	1.307	1.799	1.57E−07
	0.4	58276	1.44E−02	1.410	1.203	1.653	2.20E−05	58350	1.74E−02	1.536	1.309	1.801	1.35E−07
	0.5	65513	1.40E−02	1.404	1.198	1.646	2.73E−05	65560	1.66E−02	1.522	1.297	1.786	2.59E−07
Anxiety disorders	1E−04	58	6.90E−05	0.978	0.846	1.131	7.65E−01	58	3.00E−03	1.176	1.020	1.356	2.58E−02
	0.001	398	4.91E−04	0.942	0.814	1.091	4.25E−01	398	3.74E−05	0.982	0.852	1.132	8.03E−01
	0.01	2895	5.42E−05	0.980	0.846	1.136	7.91E−01	2890	6.44E−05	1.025	0.884	1.188	7.43E−01
	0.05	11059	2.54E−04	1.043	0.903	1.204	5.66E−01	11067	8.88E−08	0.999	0.862	1.158	9.90E−01
	0.1	19250	1.94E−03	1.124	0.972	1.298	1.14E−01	19264	3.40E−07	0.998	0.862	1.156	9.81E−01
	0.2	32253	1.79E−03	1.116	0.969	1.286	1.28E−01	32281	1.77E−05	1.013	0.876	1.172	8.64E−01
	0.3	42812	1.15E−03	1.093	0.947	1.261	2.23E−01	42815	1.37E−05	0.989	0.855	1.143	8.80E−01
	0.4	51196	1.29E−03	1.099	0.953	1.267	1.96E−01	51172	4.27E−05	0.981	0.849	1.133	7.90E−01
	0.5	58290	1.18E−03	1.094	0.949	1.261	2.18E−01	58306	2.41E−06	0.995	0.861	1.151	9.49E−01
PTSD	1E−04	84	1.09E−03	1.091	0.945	1.260	2.35E−01	84	1.06E−03	1.099	0.956	1.265	1.84E−01
	0.001	538	2.82E−03	1.150	0.996	1.329	5.65E−02	539	2.55E−04	1.048	0.910	1.208	5.14E−01
	0.01	3868	5.83E−03	1.225	1.059	1.417	6.25E−03	3873	6.64E−03	1.280	1.105	1.482	9.90E−04
	0.05	13871	4.76E−03	1.201	1.039	1.389	1.34E−02	13874	4.08E−03	1.209	1.047	1.396	9.53E−03
	0.1	23381	5.86E−03	1.224	1.059	1.414	6.13E−03	23366	3.18E−03	1.181	1.024	1.361	2.19E−02
	0.2	38177	6.43E−03	1.234	1.069	1.424	4.10E−03	38155	2.32E−03	1.153	1.000	1.329	5.02E−02
	0.3	49712	6.02E−03	1.227	1.062	1.417	5.47E−03	49697	2.76E−03	1.169	1.013	1.349	3.26E−02
	0.4	59157	5.09E−03	1.207	1.045	1.394	1.06E−02	59150	3.32E−03	1.187	1.028	1.370	1.92E−02
	0.5	66857	4.45E−03	1.192	1.032	1.376	1.67E−02	66846	3.47E−03	1.191	1.032	1.375	1.66E−02
Anorexia nervosa	1E−04	211	1.25E−05	0.991	0.858	1.144	8.99E−01	210	2.58E−04	1.049	0.910	1.208	5.12E−01
	0.001	906	6.77E−03	1.237	1.074	1.426	3.24E−03	905	5.17E−04	1.068	0.929	1.227	3.54E−01
	0.01	4379	1.80E−03	1.120	0.968	1.295	1.28E−01	4364	3.46E−05	1.017	0.884	1.170	8.10E−01

	0.05	13666	5.45E−04	1.066	0.918	1.237	4.01E−01	13657	1.08E−03	1.100	0.956	1.266	1.82E−01
	0.1	22128	1.06E−03	1.093	0.942	1.267	2.42E−01	22125	1.63E−03	1.125	0.978	1.294	1.00E−01
	0.2	35498	2.10E−03	1.134	0.977	1.317	9.89E−02	35475	2.10E−03	1.146	0.993	1.322	6.26E−02
	0.3	46251	2.67E−03	1.154	0.992	1.342	6.33E−02	46183	2.37E−03	1.157	1.001	1.337	4.77E−02
	0.4	55179	2.83E−03	1.159	0.996	1.348	5.62E−02	55093	2.26E−03	1.153	0.998	1.333	5.33E−02
	0.5	62826	2.81E−03	1.158	0.996	1.347	5.71E−02	62776	2.01E−03	1.144	0.990	1.322	6.83E−02
ADHD	1E−04	237	3.67E−03	1.176	1.016	1.361	2.97E−02	238	1.12E−03	1.104	0.958	1.272	1.73E−01
	0.001	931	7.72E−03	1.267	1.093	1.468	1.68E−03	929	7.05E−04	1.080	0.940	1.241	2.79E−01
	0.01	4351	1.34E−02	1.358	1.174	1.572	3.92E−05	4340	2.50E−04	1.048	0.909	1.208	5.19E−01
	0.05	13170	4.40E−03	1.196	1.032	1.385	1.74E−02	13159	1.92E−03	1.138	0.988	1.311	7.40E−02
	0.1	21111	6.91E−03	1.253	1.080	1.453	2.94E−03	21150	3.68E−03	1.198	1.038	1.383	1.36E−02
	0.2	33388	6.75E−03	1.244	1.076	1.440	3.29E−03	33445	5.73E−03	1.248	1.083	1.438	2.15E−03
	0.3	43234	6.16E−03	1.233	1.065	1.426	4.97E−03	43243	5.77E−03	1.248	1.084	1.437	2.09E−03
	0.4	51452	5.74E−03	1.225	1.058	1.418	6.67E−03	51451	5.51E−03	1.242	1.079	1.431	2.62E−03
	0.5	58336	6.02E−03	1.230	1.063	1.423	5.48E−03	58381	5.90E−03	1.252	1.087	1.443	1.85E−03
Autism spectrum disorder	1E−04	117	2.25E−04	0.961	0.833	1.109	5.89E−01	117	2.73E−04	0.953	0.827	1.097	5.00E−01
	0.001	661	3.65E−05	1.016	0.880	1.172	8.28E−01	662	1.11E−04	1.032	0.894	1.192	6.67E−01
	0.01	3583	6.90E−06	1.007	0.868	1.168	9.25E−01	3592	4.85E−05	1.021	0.884	1.179	7.76E−01
	0.05	11676	1.20E−07	0.999	0.862	1.158	9.90E−01	11657	3.37E−04	1.058	0.913	1.227	4.54E−01
	0.1	19248	1.33E−07	0.999	0.860	1.160	9.90E−01	19261	1.28E−03	1.119	0.962	1.302	1.45E−01
	0.2	31484	7.10E−05	1.023	0.882	1.187	7.62E−01	31512	7.16E−04	1.087	0.936	1.262	2.75E−01
	0.3	41233	1.66E−04	1.036	0.893	1.200	6.43E−01	41264	2.78E−04	1.053	0.907	1.222	4.97E−01
	0.4	49420	2.45E−04	1.043	0.900	1.210	5.73E−01	49423	1.78E−04	1.042	0.898	1.210	5.86E−01
	0.5	56615	1.57E−04	1.035	0.892	1.200	6.51E−01	56592	1.58E−04	1.040	0.895	1.208	6.08E−01
Alzheimer disease	1E−04	167	2.39E−04	1.042	0.902	1.205	5.77E−01	173	1.38E−05	1.010	0.882	1.157	8.84E−01
	0.001	597	5.19E−06	1.006	0.869	1.164	9.35E−01	607	1.44E−04	1.033	0.903	1.182	6.37E−01
	0.01	3381	5.36E−06	0.994	0.858	1.151	9.34E−01	3500	4.89E−04	1.062	0.927	1.217	3.84E−01

	0.05	12176	3.26E−04	1.050	0.907	1.215	5.15E−01	12414	4.69E−04	1.061	0.926	1.215	3.94E−01
	0.1	20714	6.49E−04	1.071	0.925	1.239	3.59E−01	21000	5.84E−04	1.069	0.932	1.226	3.42E−01
	0.2	34770	4.93E−04	1.062	0.916	1.230	4.24E−01	34806	7.51E−04	1.079	0.939	1.240	2.82E−01
	0.3	46150	1.45E−03	1.109	0.956	1.285	1.71E−01	45911	7.22E−04	1.078	0.938	1.239	2.91E−01
	0.4	55902	1.82E−03	1.123	0.968	1.302	1.25E−01	55302	8.50E−04	1.085	0.944	1.246	2.52E−01
	0.5	64457	1.81E−03	1.122	0.968	1.300	1.26E−01	63345	8.47E−04	1.084	0.944	1.246	2.53E−01
Insomnia	1E−04	296	1.89E−06	0.996	0.862	1.152	9.60E−01	296	4.19E−06	0.994	0.858	1.151	9.32E−01
	0.001	1176	1.12E−04	0.972	0.842	1.123	7.02E−01	1175	4.52E−04	1.068	0.923	1.237	3.77E−01
	0.01	5028	1.72E−04	1.037	0.894	1.203	6.35E−01	5027	1.50E−03	1.128	0.974	1.306	1.08E−01
	0.05	14447	2.47E−03	1.143	0.988	1.323	7.21E−02	14455	3.25E−03	1.190	1.030	1.375	1.82E−02
	0.1	23040	2.90E−03	1.153	0.999	1.331	5.14E−02	23030	3.56E−03	1.195	1.038	1.377	1.34E−02
	0.2	36254	2.86E−03	1.152	0.998	1.331	5.33E−02	36215	3.20E−03	1.183	1.028	1.362	1.91E−02
	0.3	46699	1.65E−03	1.113	0.965	1.285	1.42E−01	46714	1.96E−03	1.140	0.991	1.311	6.61E−02
	0.4	55410	1.71E−03	1.116	0.967	1.288	1.34E−01	55349	1.25E−03	1.110	0.966	1.275	1.42E−01
	0.5	62913	1.36E−03	1.103	0.955	1.274	1.82E−01	62854	1.45E−03	1.119	0.973	1.286	1.14E−01
Alcohol dependence	1E−04	56	1.63E−05	1.011	0.876	1.166	8.84E−01	56	7.42E−04	0.921	0.797	1.065	2.67E−01
	0.001	458	6.20E−04	1.070	0.923	1.240	3.70E−01	457	2.17E−03	1.147	0.995	1.322	5.79E−02
	0.01	3265	1.13E−03	1.096	0.945	1.273	2.26E−01	3271	5.31E−03	1.238	1.075	1.425	3.07E−03
	0.05	12420	4.44E−03	1.206	1.034	1.405	1.68E−02	12439	8.48E−03	1.330	1.144	1.547	2.09E−04
	0.1	21338	3.10E−03	1.166	1.003	1.355	4.54E−02	21333	8.50E−03	1.340	1.148	1.564	2.07E−04
	0.2	35336	1.63E−03	1.119	0.961	1.302	1.47E−01	35334	1.00E−02	1.379	1.179	1.613	5.92E−05
	0.3	46570	1.99E−03	1.131	0.973	1.315	1.09E−01	46634	1.12E−02	1.405	1.201	1.644	2.22E−05
	0.4	55960	2.38E−03	1.145	0.984	1.331	7.98E−02	56024	1.20E−02	1.424	1.216	1.667	1.17E−05
	0.5	63837	2.56E−03	1.150	0.989	1.337	6.94E−02	63831	1.18E−02	1.419	1.212	1.661	1.31E−05
Lifetime cannabis use	1E−04	165	1.43E−04	1.032	0.894	1.191	6.67E−01	166	1.86E−03	1.135	0.985	1.307	7.91E−02
	0.001	779	7.53E−04	1.077	0.929	1.248	3.23E−01	777	1.09E−04	0.970	0.841	1.117	6.70E−01
	0.01	4210	6.78E−03	1.249	1.077	1.449	3.21E−03	4201	1.58E−04	0.964	0.838	1.109	6.08E−01

	0.05	13568	5.84E−03	1.224	1.059	1.415	6.21E−03	13557	3.33E−06	1.005	0.873	1.158	9.41E−01
	0.1	22398	6.08E−03	1.229	1.064	1.421	5.22E−03	22400	1.63E−05	1.012	0.878	1.166	8.69E−01
	0.2	36519	7.10E−03	1.252	1.082	1.449	2.57E−03	36491	1.17E−04	1.032	0.896	1.190	6.59E−01
	0.3	47750	5.56E−03	1.221	1.055	1.413	7.54E−03	47678	8.87E−07	0.997	0.866	1.148	9.69E−01
	0.4	57150	5.31E−03	1.215	1.050	1.406	9.02E−03	57104	3.73E−06	1.006	0.874	1.158	9.37E−01
	0.5	65148	5.11E−03	1.210	1.046	1.401	1.04E−02	65140	6.68E−07	0.998	0.867	1.148	9.73E−01
Smoking per day	1E−04	53	2.55E−07	0.999	0.858	1.162	9.85E−01	53	8.65E−04	1.092	0.945	1.263	2.31E−01
	0.001	410	2.17E−04	1.040	0.900	1.201	5.96E−01	410	1.58E−03	1.125	0.975	1.299	1.05E−01
	0.01	3088	3.17E−05	1.015	0.881	1.169	8.39E−01	3091	1.86E−04	1.040	0.905	1.196	5.78E−01
	0.05	11703	8.60E−04	1.079	0.937	1.242	2.91E−01	11720	6.14E−04	1.076	0.934	1.239	3.13E−01
	0.1	20153	1.79E−03	1.114	0.970	1.281	1.27E−01	20162	1.26E−03	1.109	0.964	1.276	1.47E−01
	0.2	33930	8.07E−04	1.077	0.935	1.240	3.06E−01	33948	2.54E−03	1.160	1.007	1.337	4.02E−02
	0.3	44956	6.30E−04	1.068	0.927	1.230	3.66E−01	45022	1.67E−03	1.129	0.979	1.303	9.57E−02
	0.4	54221	7.63E−04	1.074	0.933	1.237	3.20E−01	54259	2.15E−03	1.147	0.995	1.322	5.92E−02
	0.5	61880	9.75E−04	1.085	0.941	1.250	2.61E−01	61937	2.01E−03	1.142	0.990	1.317	6.81E−02
Neuroticism	1E−04	57	3.73E−03	1.179	1.018	1.365	2.84E−02	57	1.21E−06	1.003	0.875	1.150	9.64E−01
	0.001	446	1.36E−03	1.101	0.955	1.268	1.84E−01	446	2.41E−05	1.014	0.885	1.162	8.41E−01
	0.01	3343	6.80E−04	1.073	0.926	1.243	3.48E−01	3341	1.15E−04	1.032	0.896	1.190	6.62E−01
	0.05	12383	8.70E−05	1.026	0.884	1.190	7.37E−01	12385	1.29E−03	1.112	0.965	1.281	1.44E−01
	0.1	21000	1.49E−06	0.997	0.861	1.154	9.65E−01	21041	1.75E−03	1.129	0.982	1.299	8.90E−02
	0.2	34839	3.54E−04	1.051	0.909	1.215	4.98E−01	34842	1.61E−03	1.123	0.977	1.292	1.03E−01
	0.3	45989	5.51E−05	1.020	0.881	1.181	7.89E−01	45973	1.99E−03	1.138	0.990	1.309	6.96E−02
	0.4	54925	5.45E−05	1.020	0.881	1.182	7.90E−01	54910	1.82E−03	1.132	0.984	1.303	8.30E−02
	0.5	62527	2.92E−05	1.015	0.876	1.175	8.46E−01	62507	2.35E−03	1.151	1.001	1.325	4.86E−02
Extraversion	1E−04	57	1.83E−04	0.964	0.833	1.117	6.26E−01	57	1.33E−04	1.034	0.899	1.191	6.38E−01
	0.001	501	2.11E−07	0.999	0.863	1.156	9.87E−01	500	1.12E−03	0.906	0.786	1.044	1.73E−01
	0.01	3344	2.16E−04	1.040	0.899	1.204	5.96E−01	3346	1.80E−03	0.885	0.771	1.017	8.45E−02

	0.05	12332	3.76E−04	0.949	0.820	1.099	4.85E−01	12338	9.00E−06	0.991	0.862	1.140	9.03E−01
	0.1	20913	6.41E−05	0.978	0.843	1.136	7.73E−01	20907	2.65E−06	1.005	0.871	1.159	9.47E−01
	0.2	34542	8.69E−05	0.975	0.839	1.132	7.37E−01	34577	3.85E−05	1.019	0.883	1.176	8.00E−01
	0.3	45488	1.53E−06	0.997	0.858	1.158	9.64E−01	45472	4.87E−05	1.021	0.885	1.178	7.76E−01
	0.4	54431	5.39E−05	0.980	0.844	1.138	7.91E−01	54384	2.26E−05	1.014	0.880	1.169	8.46E−01
	0.5	61864	7.81E−05	0.976	0.840	1.134	7.50E−01	61795	2.49E−05	1.015	0.880	1.170	8.38E−01
Aggression	1E−04	30	2.32E−04	1.041	0.901	1.203	5.83E−01	30	5.12E−04	1.070	0.927	1.235	3.56E−01
	0.001	304	4.12E−04	0.947	0.817	1.097	4.64E−01	304	2.48E−05	1.015	0.882	1.166	8.39E−01
	0.01	2518	3.65E−04	0.949	0.818	1.101	4.92E−01	2516	6.81E−04	1.079	0.938	1.242	2.88E−01
	0.05	9715	8.50E−05	0.975	0.840	1.132	7.40E−01	9707	1.33E−03	1.113	0.967	1.281	1.37E−01
	0.1	17027	3.50E−05	0.984	0.847	1.143	8.31E−01	16985	4.68E−04	1.066	0.925	1.227	3.78E−01
	0.2	29044	1.26E−05	1.010	0.869	1.173	8.98E−01	29057	9.47E−04	1.095	0.950	1.261	2.10E−01
	0.3	39115	5.00E−04	1.063	0.916	1.234	4.18E−01	39126	9.19E−04	1.092	0.950	1.256	2.17E−01
	0.4	47356	4.02E−05	1.017	0.877	1.180	8.19E−01	47384	1.36E−03	1.113	0.968	1.281	1.33E−01
	0.5	54334	4.35E−05	1.018	0.877	1.182	8.12E−01	54421	1.73E−03	1.129	0.981	1.300	9.02E−02
Antisocial behavior	1E−04	34	1.01E−04	0.974	0.843	1.125	7.18E−01	34	1.12E−03	1.103	0.958	1.271	1.72E−01
	0.001	347	4.22E−04	1.058	0.912	1.227	4.60E−01	347	7.76E−04	1.087	0.941	1.255	2.56E−01
	0.01	2780	3.21E−03	1.166	1.006	1.352	4.20E−02	2782	7.79E−04	1.087	0.941	1.256	2.55E−01
	0.05	10870	3.87E−03	1.180	1.020	1.365	2.56E−02	10870	1.53E−03	1.125	0.973	1.300	1.12E−01
	0.1	19121	2.44E−03	1.140	0.986	1.317	7.63E−02	19119	2.77E−03	1.174	1.014	1.360	3.23E−02
	0.2	32895	3.12E−03	1.161	1.003	1.344	4.50E−02	32875	3.31E−03	1.189	1.028	1.374	1.96E−02
	0.3	44376	5.29E−03	1.215	1.049	1.407	9.34E−03	44318	3.67E−03	1.197	1.037	1.382	1.39E−02
	0.4	54076	4.30E−03	1.192	1.029	1.379	1.89E−02	53983	3.52E−03	1.194	1.034	1.379	1.59E−02
	0.5	62406	3.89E−03	1.182	1.021	1.368	2.55E−02	62247	3.20E−03	1.184	1.025	1.367	2.16E−02
Risk tolerance	1E−04	461	3.86E−03	1.181	1.020	1.368	2.58E−02	463	3.99E−03	1.207	1.045	1.393	1.03E−02
	0.001	1502	7.19E−04	1.075	0.928	1.244	3.34E−01	1501	3.87E−03	1.198	1.042	1.378	1.14E−02
	0.01	5690	2.00E−03	1.128	0.974	1.306	1.07E−01	5700	1.13E−04	1.031	0.897	1.186	6.65E−01

	0.05	15473	6.78E−03	1.248	1.077	1.446	3.24E−03	15493	6.66E−04	1.078	0.937	1.240	2.93E−01
	0.1	24047	5.06E−03	1.211	1.045	1.402	1.09E−02	24072	8.74E−04	1.090	0.947	1.254	2.28E−01
	0.2	37512	4.30E−03	1.191	1.029	1.378	1.88E−02	37508	7.77E−04	1.085	0.942	1.249	2.56E−01
	0.3	48031	3.03E−03	1.159	1.001	1.342	4.83E−02	48054	6.79E−04	1.080	0.937	1.245	2.88E−01
	0.4	56753	2.79E−03	1.153	0.995	1.335	5.83E−02	56694	4.39E−04	1.064	0.923	1.227	3.93E−01
	0.5	64184	2.71E−03	1.151	0.993	1.333	6.18E−02	64150	5.64E−04	1.073	0.931	1.236	3.33E−01
SESA	1E−04	610	8.07E−03	1.275	1.099	1.479	1.32E−03	611	3.11E−04	1.054	0.914	1.215	4.72E−01
	0.001	1833	1.25E−02	1.350	1.164	1.564	6.95E−05	1838	5.16E−03	1.233	1.071	1.420	3.57E−03
	0.01	6501	7.33E−03	1.256	1.085	1.453	2.22E−03	6514	6.44E−03	1.262	1.097	1.452	1.15E−03
	0.05	16873	5.63E−03	1.221	1.056	1.412	7.12E−03	16860	5.50E−03	1.244	1.079	1.434	2.59E−03
	0.1	25819	7.36E−03	1.260	1.087	1.460	2.18E−03	25831	6.41E−03	1.266	1.098	1.459	1.17E−03
	0.2	39406	7.97E−03	1.272	1.097	1.476	1.45E−03	39379	6.68E−03	1.272	1.103	1.467	9.21E−04
	0.3	50148	7.60E−03	1.263	1.090	1.464	1.86E−03	50081	6.02E−03	1.257	1.090	1.450	1.65E−03
	0.4	58992	7.40E−03	1.259	1.087	1.459	2.13E−03	58947	6.53E−03	1.269	1.100	1.464	1.07E−03
	0.5	66580	7.22E−03	1.256	1.084	1.456	2.43E−03	66582	6.49E−03	1.269	1.100	1.465	1.10E−03
Educational attainment	1E−04	2563	1.60E−03	0.900	0.778	1.040	1.51E−01	2564	3.86E−03	0.833	0.723	0.960	1.18E−02
	0.001	5055	1.77E−03	0.894	0.773	1.034	1.32E−01	5053	5.20E−03	0.807	0.698	0.932	3.47E−03
	0.01	11550	1.68E−03	0.897	0.777	1.036	1.40E−01	11542	6.15E−03	0.791	0.685	0.914	1.50E−03
	0.05	23042	2.13E−03	0.887	0.769	1.022	9.76E−02	23044	9.54E−03	0.750	0.650	0.866	8.33E−05
	0.1	31793	1.96E−03	0.891	0.772	1.027	1.12E−01	31791	1.07E−02	0.739	0.640	0.852	3.23E−05
	0.2	44262	1.46E−03	0.905	0.785	1.044	1.70E−01	44261	8.99E−03	0.756	0.656	0.873	1.31E−04
	0.3	53744	1.25E−03	0.912	0.791	1.051	2.03E−01	53717	9.05E−03	0.755	0.654	0.872	1.25E−04
	0.4	61619	1.24E−03	0.912	0.792	1.052	2.06E−01	61627	7.85E−03	0.770	0.667	0.888	3.45E−04
	0.5	68415	1.28E−03	0.911	0.791	1.050	1.99E−01	68376	7.66E−03	0.772	0.668	0.891	4.08E−04
Cognitive performance	1E−04	1309	1.54E−03	0.901	0.780	1.041	1.59E−01	1316	7.46E−03	0.776	0.673	0.895	4.86E−04
	0.001	3084	2.38E−03	0.879	0.761	1.015	7.95E−02	3090	8.89E−03	0.755	0.653	0.872	1.41E−04
	0.01	8475	3.42E−03	0.853	0.735	0.990	3.59E−02	8483	6.99E−03	0.780	0.675	0.901	7.27E−04

	P_T												
	0.05	19072	3.25E−03	0.853	0.733	0.993	4.07E−02	19089	3.59E−03	0.836	0.724	0.965	1.48E−02
	0.1	27898	2.72E−03	0.866	0.746	1.007	6.09E−02	27923	3.87E−03	0.831	0.720	0.959	1.15E−02
	0.2	40722	2.31E−03	0.878	0.757	1.018	8.39E−02	40781	4.08E−03	0.828	0.718	0.955	9.42E−03
	0.3	50538	1.84E−03	0.890	0.767	1.032	1.23E−01	50562	3.69E−03	0.836	0.725	0.964	1.35E−02
	0.4	58676	1.34E−03	0.906	0.781	1.050	1.89E−01	58695	3.68E−03	0.836	0.725	0.964	1.36E−02
	0.5	65611	1.25E−03	0.908	0.783	1.053	2.04E−01	65563	3.62E−03	0.838	0.727	0.965	1.45E−02
	1E−04	1422	3.43E−04	0.953	0.827	1.098	5.05E−01	1434	6.33E−03	0.794	0.689	0.913	1.27E−03
	0.001	3262	9.35E−04	0.922	0.798	1.065	2.71E−01	3259	6.68E−03	0.791	0.688	0.909	9.38E−04
	0.01	9009	1.76E−03	0.894	0.772	1.034	1.32E−01	9022	9.03E−03	0.758	0.658	0.873	1.23E−04
	0.05	20032	1.91E−04	0.963	0.832	1.116	6.19E−01	20032	8.89E−03	0.753	0.651	0.872	1.41E−04
IQ	0.1	29012	1.21E−03	0.909	0.783	1.055	2.11E−01	29046	8.12E−03	0.764	0.660	0.883	2.69E−04
	0.2	42327	5.27E−04	0.939	0.808	1.090	4.09E−01	42397	9.31E−03	0.748	0.647	0.866	9.88E−05
	0.3	52578	4.75E−04	0.942	0.812	1.093	4.33E−01	52617	1.06E−02	0.733	0.632	0.849	3.34E−05
	0.4	61029	2.55E−04	0.957	0.824	1.112	5.65E−01	61040	1.02E−02	0.737	0.637	0.854	4.63E−05
	0.5	68005	2.61E−04	0.956	0.823	1.111	5.61E−01	68095	1.02E−02	0.737	0.637	0.854	4.56E−05

The amount of variance explained by the PRS (R^2) is presented on the liability scale at the prevalence rate of suicidal behavior (0.02). P_T: p threshold.

Supplementary Table S5.   Results of the polygenic risk score analyses setting our GWAS of "suicide death without MDD vs. control" as target set

Base	P_T	N of SNPs	R^2	OR	Lower 95%CI	Upper 95%CI	p
Major depressive disorder[1,2]	1E−04	620	5.42E−03	1.212	0.990	1.484	6.27E−02
	0.001	1790	5.91E−03	1.222	0.998	1.496	5.25E−02
	0.01	6373	1.60E−02	1.413	1.140	1.751	1.60E−03
	0.05	16537	1.46E−02	1.385	1.121	1.710	2.49E−03
	0.1	25139	1.80E−02	1.440	1.163	1.784	8.26E−04
	0.2	38236	1.77E−02	1.436	1.160	1.777	8.94E−04
	0.3	48522	1.74E−02	1.435	1.157	1.780	1.02E−03
	0.4	57003	1.42E−02	1.384	1.118	1.714	2.87E−03
	0.5	64277	1.37E−02	1.376	1.112	1.704	3.39E−03

Our GWAS of "suicide death without MDD vs. control" was comprised of 114 suicide decedents without diagnosed/possible MDD and 874 non-psychiatric healthy controls. The amount of variance explained by the PRS (R^2) is presented on the liability scale at the prevalence rate of suicidal behavior (0.02). P_T: p threshold.

Supplementary Table S6.　Results of the polygenic risk score analyses setting our GWAS of "non-fatal suicide attempt vs. suicide death" as target set

Base	P_T	N of SNPs	R^2	OR	Lower 95%CI	Upper 95%CI	p
Major depressive disorder[1,2]	1E−04	642	1.39E−03	0.921	0.757	1.121	3.96E−01
	0.001	1819	1.49E−03	0.912	0.747	1.114	3.67E−01
	0.01	6415	1.40E−03	0.918	0.757	1.112	3.82E−01
	0.05	16561	2.00E−03	0.902	0.742	1.095	2.96E−01
	0.1	25159	1.67E−03	0.907	0.742	1.108	3.40E−01
	0.2	38301	1.55E−03	0.910	0.745	1.112	3.58E−01
	0.3	48579	1.40E−03	0.914	0.748	1.118	3.82E−01
	0.4	57095	1.94E−03	0.900	0.736	1.100	3.04E−01
	0.5	64377	9.91E−04	0.928	0.761	1.132	4.62E−01
Bipolar disorder[3]	1E−04	328	4.02E−03	1.149	0.956	1.379	1.38E−01
	0.001	1220	1.52E−04	1.029	0.846	1.252	7.73E−01
	0.01	5151	1.33E−04	1.028	0.843	1.253	7.88E−01
	0.05	14968	2.98E−03	1.126	0.938	1.352	2.03E−01
	0.1	23670	1.52E−04	1.029	0.846	1.252	7.73E−01
	0.2	37314	1.62E−03	1.086	0.914	1.290	3.47E−01
	0.3	48209	1.74E−04	1.032	0.844	1.262	7.58E−01
	0.4	57458	4.10E−04	1.050	0.859	1.283	6.36E−01
	0.5	65339	5.65E−04	1.058	0.866	1.293	5.79E−01
Schizophrenia[4]	1E−04	990	1.45E−03	0.921	0.768	1.104	3.74E−01
	0.001	2584	4.29E−03	0.867	0.722	1.041	1.27E−01
	0.01	8119	3.99E−03	1.134	0.950	1.355	1.65E−01
	0.05	20013	4.37E−03	1.151	0.973	1.363	1.11E−01
	0.1	29918	3.12E−02	1.113	0.939	1.320	2.16E−01
	0.2	44875	4.02E−03	1.134	0.951	1.351	1.61E−01
	0.3	56748	4.12E−03	1.175	0.986	1.400	1.34E−01
	0.4	66242	4.41E−03	1.152	0.969	1.369	1.10E−01
	0.5	74570	4.09E−03	1.143	0.962	1.359	1.28E−01
Anxiety disorders[5]	1E−04	60	3.24E−03	1.141	0.939	1.386	1.84E−01
	0.001	397	3.48E−04	1.044	0.860	1.267	6.63E−01
	0.01	2942	8.68E−05	1.022	0.841	1.241	8.28E−01
	0.05	11186	2.34E−04	0.967	0.806	1.161	7.21E−01
	0.1	19448	2.54E−03	0.891	0.734	1.080	2.40E−01
	0.2	32415	2.11E−03	0.901	0.744	1.091	2.84E−01
	0.3	42976	1.55E−03	0.914	0.755	1.107	3.58E−01
	0.4	51283	1.60E−03	0.915	0.760	1.102	3.50E−01

	0.5	58351	1.50E−03	0.915	0.754	1.110	3.66E−01
PTSD[6]	1E−04	62	1.05E−05	1.008	0.828	1.226	9.40E−01
	0.001	473	9.61E−04	0.930	0.765	1.132	4.69E−01
	0.01	3264	8.19E−04	1.068	0.880	1.298	5.04E−01
	0.05	12056	7.04E−06	1.006	0.826	1.226	9.51E−01
	0.1	20660	2.04E−04	0.967	0.792	1.180	7.39E−01
	0.2	34407	3.26E−04	0.959	0.788	1.167	6.73E−01
	0.3	45586	2.93E−04	0.961	0.789	1.169	6.89E−01
	0.4	55380	5.38E−06	0.995	0.816	1.212	9.57E−01
	0.5	63683	5.29E−08	0.999	0.820	1.218	9.96E−01
Anorexia nervosa[7]	1E−04	216	5.30E−04	1.052	0.874	1.268	5.91E−01
	0.001	929	2.32E−03	0.900	0.749	1.081	2.61E−01
	0.01	4505	5.57E−04	0.948	0.785	1.146	5.82E−01
	0.05	13994	6.61E−05	1.019	0.842	1.233	8.49E−01
	0.1	22657	2.52E−05	1.011	0.838	1.220	9.07E−01
	0.2	36334	6.35E−05	1.018	0.845	1.225	8.52E−01
	0.3	47324	6.34E−05	1.018	0.845	1.225	8.52E−01
	0.4	56375	2.55E−05	1.011	0.841	1.215	9.06E−01
	0.5	64105	2.78E−06	0.996	0.829	1.198	9.69E−01
ADHD[8]	1E−04	238	8.69E−04	0.932	0.763	1.139	4.91E−01
	0.001	933	4.22E−03	0.855	0.697	1.048	1.31E−01
	0.01	4344	1.21E−02	0.768	0.627	0.940	1.06E−02
	0.05	13158	8.09E−04	0.940	0.782	1.129	5.06E−01
	0.1	21127	2.10E−04	0.966	0.791	1.180	7.35E−01
	0.2	33416	1.07E−05	1.007	0.836	1.214	9.39E−01
	0.3	43255	2.43E−05	1.011	0.839	1.218	9.08E−01
	0.4	51467	9.29E−06	1.007	0.835	1.214	9.43E−01
	0.5	58419	2.64E−05	1.011	0.840	1.218	9.04E−01
Autism spectrum disorder[9]	1E−04	118	9.53E−06	0.993	0.810	1.217	9.43E−01
	0.001	663	9.27E−06	1.007	0.837	1.210	9.43E−01
	0.01	3601	1.08E−05	1.007	0.837	1.212	9.39E−01
	0.05	11713	2.04E−04	1.032	0.859	1.239	7.38E−01
	0.1	19364	2.10E−03	1.105	0.921	1.326	2.84E−01
	0.2	31606	2.74E−04	1.037	0.863	1.246	6.99E−01
	0.3	41312	1.19E−05	1.008	0.840	1.209	9.36E−01
	0.4	49572	2.57E−06	0.997	0.830	1.196	9.70E−01
	0.5	56689	1.53E−06	1.003	0.833	1.207	9.77E−01
Alzheimer disease[10]	1E−04	173	2.62E−06	0.996	0.827	1.200	9.16E−01
	0.001	601	2.13E−06	1.003	0.832	1.210	9.73E−01
	0.01	3375	3.00E−04	1.039	0.863	1.251	6.86E−01
	0.05	12078	8.30E−06	1.006	0.836	1.211	9.46E−01

	0.1	20624	5.05E−06	1.005	0.834	1.211	9.58E−01
	0.2	34616	2.43E−05	1.011	0.839	1.218	9.08E−01
	0.3	45933	4.70E−04	0.954	0.794	1.145	6.12E−01
	0.4	55672	1.70E−04	0.972	0.808	1.168	7.61E−01
	0.5	64050	2.18E−04	0.968	0.805	1.164	7.30E−01
Insomnia[11]	1E−04	303	1.80E−06	0.997	0.833	1.193	9.75E−01
	0.001	1194	9.99E−04	1.071	0.892	1.287	4.61E−01
	0.01	5142	1.76E−03	1.095	0.913	1.314	3.28E−01
	0.05	14830	1.76E−04	1.030	0.852	1.246	7.57E−01
	0.1	23726	9.84E−05	1.022	0.848	1.233	8.17E−01
	0.2	37416	7.68E−05	0.981	0.814	1.182	8.38E−01
	0.3	48383	5.84E−05	1.018	0.841	1.231	8.58E−01
	0.4	57401	2.28E−06	1.003	0.832	1.211	9.72E−01
	0.5	65273	7.59E−06	1.006	0.845	1.197	9.49E−01
Alcohol dependence[12]	1E−04	56	3.77E−04	0.957	0.792	1.157	6.50E−01
	0.001	462	4.00E−03	1.159	0.952	1.411	1.41E−01
	0.01	3244	9.21E−03	1.225	1.024	1.466	2.63E−02
	0.05	12318	4.90E−03	1.168	0.969	1.409	1.03E−01
	0.1	21285	3.95E−03	1.148	0.955	1.380	1.43E−01
	0.2	35491	5.54E−03	1.179	0.979	1.421	8.27E−02
	0.3	46961	4.33E−03	1.155	0.961	1.388	1.25E−01
	0.4	56492	4.01E−03	1.149	0.955	1.383	1.40E−01
	0.5	64510	4.79E−03	1.162	0.968	1.394	1.07E−01
Lifetime cannabis use[13]	1E−04	169	1.21E−03	1.083	0.893	1.313	4.16E−01
	0.001	798	1.46E−03	0.915	0.752	1.113	3.73E−01
	0.01	4275	8.98E−03	0.809	0.671	0.977	2.77E−02
	0.05	13808	7.61E−03	0.822	0.680	0.994	4.27E−02
	0.1	22641	7.43E−03	0.824	0.682	0.996	4.51E−02
	0.2	36633	7.29E−03	0.825	0.682	0.998	4.72E−02
	0.3	47370	8.21E−03	0.813	0.671	0.986	3.53E−02
	0.4	56497	7.70E−03	0.821	0.679	0.992	4.15E−02
	0.5	64005	7.83E−03	0.821	0.680	0.991	3.96E−02
Smoking per day[14]	1E−04	53	2.53E−03	1.116	0.929	1.339	2.40E−01
	0.001	409	1.07E−03	1.073	0.895	1.287	4.44E−01
	0.01	3099	4.37E−05	1.014	0.846	1.216	8.77E−01
	0.05	11754	1.95E−05	0.990	0.823	1.192	9.18E−01
	0.1	20243	7.25E−06	0.994	0.828	1.193	9.50E−01
	0.2	34043	3.35E−03	1.135	0.944	1.365	1.76E−01
	0.3	45144	3.59E−03	1.141	0.948	1.373	1.62E−01
	0.4	54408	3.72E−03	1.143	0.951	1.373	1.54E−01
	0.5	62152	2.27E−03	1.109	0.924	1.331	2.66E−01

	1E−04	61	2.21E−03	0.899	0.742	1.088	2.72E−01
	0.001	459	9.61E−04	0.931	0.766	1.130	4.69E−01
	0.01	3383	1.55E−04	0.975	0.812	1.170	8.57E−01
	0.05	12454	2.21E−04	1.034	0.857	1.247	7.28E−01
Neuroticism[15]	0.1	21138	1.44E−03	1.089	0.902	1.315	3.76E−01
	0.2	34944	1.77E−03	1.100	0.909	1.331	3.26E−01
	0.3	46010	2.35E−03	1.117	0.922	1.354	2.58E−01
	0.4	54825	2.06E−03	1.109	0.915	1.344	2.90E−01
	0.5	62385	1.83E−03	1.102	0.911	1.334	3.18E−01
	1E−04	57	3.38E−04	1.037	0.878	1.226	6.67E−01
	0.001	492	3.12E−03	0.886	0.738	1.063	1.92E−01
	0.01	3337	4.53E−03	0.860	0.713	1.038	1.16E−01
	0.05	12334	4.33E−04	0.955	0.793	1.150	6.27E−01
Extraversion[16]	0.1	20951	1.36E−05	1.008	0.834	1.219	9.31E−01
	0.2	34691	7.66E−05	1.020	0.841	1.238	8.38E−01
	0.3	45713	4.69E−04	1.051	0.868	1.272	6.13E−01
	0.4	54806	6.49E−04	1.060	0.874	1.286	5.52E−01
	0.5	62413	8.56E−04	1.070	0.882	1.298	4.94E−01
	1E−04	31	5.34E−05	1.015	0.878	1.174	8.36E−01
	0.001	302	1.22E−03	0.928	0.801	1.076	3.22E−01
	0.01	2481	2.41E−03	1.111	0.958	1.289	1.64E−01
	0.05	9615	1.98E−03	1.099	0.949	1.272	2.07E−01
Aggression[17]	0.1	16882	8.51E−04	1.065	0.918	1.235	4.09E−01
	0.2	28851	8.31E−04	1.064	0.917	1.235	4.14E−01
	0.3	38952	6.43E−05	1.017	0.876	1.182	8.20E−01
	0.4	47305	1.04E−03	1.072	0.924	1.244	3.60E−01
	0.5	54391	1.10E−03	1.074	0.925	1.246	3.49E−01
	1E−04	35	8.66E−04	1.070	0.882	1.300	4.92E−01
	0.001	337	1.96E−06	1.003	0.825	1.220	9.74E−01
	0.01	2758	8.69E−05	0.980	0.819	1.174	8.54E−01
	0.05	10896	9.07E−05	0.979	0.815	1.177	8.24E−01
Antisocial behavior[18]	0.1	19244	1.74E−06	1.003	0.834	1.206	9.75E−01
	0.2	33184	3.79E−09	1.000	0.831	1.204	9.99E−01
	0.3	44805	1.35E−04	0.974	0.807	1.176	7.86E−01
	0.4	54652	9.28E−06	1.007	0.836	1.212	9.43E−01
	0.5	63177	1.76E−04	1.030	0.856	1.238	7.56E−01
	1E−04	469	5.40E−05	1.017	0.841	1.229	8.64E−01
	0.001	1512	1.03E−03	1.075	0.889	1.301	4.54E−01
Risk tolerance[19]	0.01	5734	6.77E−04	0.942	0.778	1.142	5.43E−01
	0.05	15542	1.30E−03	0.920	0.759	1.117	4.00E−01
	0.1	24136	4.43E−04	1.049	0.867	1.268	6.23E−01

	P_T		R^2	OR			P
	0.2	37591	3.63E−04	1.044	0.863	1.264	6.56E−01
	0.3	48166	2.59E−04	1.037	0.858	1.253	7.07E−01
	0.4	56769	2.96E−04	1.040	0.860	1.256	6.88E−01
	0.5	64213	2.11E−04	1.034	0.854	1.251	7.34E−01
SESA[20]	1E−04	622	4.93E−03	1.172	0.969	1.417	1.02E−01
	0.001	1835	2.73E−03	0.892	0.742	1.072	2.23E−01
	0.01	6395	1.26E−05	1.008	0.843	1.204	9.34E−01
	0.05	16480	1.99E−04	1.032	0.854	1.248	7.41E−01
	0.1	25132	4.25E−06	0.996	0.833	1.190	9.62E−01
	0.2	38067	2.17E−05	0.990	0.824	1.190	9.13E−01
	0.3	48317	7.23E−05	0.982	0.819	1.177	8.42E−01
	0.4	56758	7.01E−05	1.018	0.852	1.217	8.45E−01
	0.5	63922	3.20E−06	1.004	0.840	1.199	9.67E−01
Educational attainment[21]	1E−04	2618	2.96E−03	0.887	0.738	1.067	2.04E−01
	0.001	5145	3.44E−03	0.875	0.723	1.059	1.71E−01
	0.01	11686	3.65E−03	0.872	0.721	1.055	1.59E−01
	0.05	23150	5.47E−03	0.854	0.714	1.022	8.47E−02
	0.1	31779	7.77E−03	0.820	0.679	0.991	4.00E−02
	0.2	43893	7.00E−03	0.829	0.686	1.001	5.13E−02
	0.3	53079	6.53E−03	0.841	0.702	1.007	5.97E−02
	0.4	60686	6.16E−03	0.845	0.706	1.012	6.73E−02
	0.5	67166	5.95E−03	0.848	0.709	1.015	7.21E−02
Cognitive performance[21]	1E−04	1344	5.19E−03	0.855	0.713	1.026	9.29E−02
	0.001	3131	5.73E−03	0.851	0.711	1.018	7.78E−02
	0.01	8587	3.03E−03	0.884	0.733	1.067	1.98E−01
	0.05	19175	3.35E−04	0.959	0.792	1.161	6.69E−01
	0.1	28034	1.20E−03	0.925	0.766	1.117	4.18E−01
	0.2	40825	1.77E−03	0.910	0.754	1.098	3.25E−01
	0.3	50682	1.91E−03	0.906	0.750	1.095	3.07E−01
	0.4	58801	2.02E−03	0.903	0.747	1.092	2.94E−01
	0.5	65665	1.96E−03	0.905	0.749	1.093	3.01E−01
IQ[22]	1E−04	1449	4.01E−03	0.868	0.720	1.047	1.40E−01
	0.001	3289	3.53E−03	0.886	0.747	1.052	1.66E−01
	0.01	9052	2.75E−03	0.896	0.752	1.068	2.22E−01
	0.05	20055	7.18E−03	0.847	0.718	1.000	4.97E−02
	0.1	28914	5.79E−03	0.857	0.723	1.017	7.74E−02
	0.2	42100	5.73E−03	0.868	0.742	1.017	7.96E−02
	0.3	52249	6.41E−03	0.862	0.736	1.009	6.41E−02
	0.4	60587	6.53E−03	0.861	0.735	1.007	6.17E−02
	0.5	67528	5.79E−03	0.869	0.744	1.016	7.83E−02

The amount of variance explained by the PRS (R^2) is estimated based on Nagelkerke's R^2. P_T: p threshold.

Supplementary Table S7. Results of the polygenic risk score analyses for suicide-related clinical scores in suicidal behavior cases

Clinical phenotype (N; number of samples), type of trait	PRS	P_t	p	R^2
Quantitative depression severity score (N = 193), Continuous	Major depressive disorder	0.01	2.32E−01	7.83E−03
	Bipolar disorder	0.4	3.65E−01	1.11E−02
	Schizophrenia	0.01	5.82E−02	3.64E−03
	Anxiety disorders	1E−04	9.72E−02	7.92E−04
	PTSD	0.01	3.02E−01	9.79E−03
	Anorexia nervosa	0.001	3.03E−01	9.81E−03
	ADHD	0.2	7.69E−01	1.50E−02
	Autism spectrum disorder	0.1	8.40E−02	4.50E−04
	Alzheimer disease	0.5	2.46E−01	8.27E−03
	Insomnia	0.05	9.67E−01	1.55E−02
	Alcohol dependence	0.05	9.55E−01	1.55E−02
	Lifetime cannabis use	0.2	3.27E−01	1.03E−02
	Smoking per day	0.2	6.40E−01	1.43E−02
	Neuroticism	0.2	1.62E−01	5.05E−03
	Extraversion	0.001	1.71E−01	5.46E−03

	Aggression	0.3	1.28E−01	3.08E−03
	Antisocial behavior	0.3	5.71E−01	1.38E−02
	Risk tolerance	0.05	4.05E−01	1.18E−02
	SESA	0.001	6.47E−01	1.44E−02
	Educational attainment	0.1	8.27E−01	1.52E−02
	Cognitive performance	0.001	4.62E−02	5.68E−03
	IQ	0.01	2.48E−01	8.33E−03
BDHS (N = 179), Continuous	Major depressive disorder	0.01	8.78E−02	6.72E−03
	Bipolar disorder	0.4	2.41E−01	2.09E−03
	Schizophrenia	0.01	7.71E−01	9.52E−03
	Anxiety disorders	1E−04	4.91E−01	7.27E−03
	PTSD	0.01	9.06E−01	9.93E−03
	Anorexia nervosa	0.001	7.32E−01	9.33E−03
	ADHD	0.2	2.73E−01	3.07E−03
	Autism spectrum disorder	0.1	8.19E−01	9.71E−03
	Alzheimer disease	0.5	6.73E−01	8.98E−03
	Insomnia	0.05	1.11E−01	4.57E−03
	Alcohol dependence	0.05	6.45E−01	8.78E−03

	Lifetime cannabis use	0.2	9.08E−01	9.93E−03
	Smoking per day	0.2	1.37E−01	2.68E−03
	Neuroticism	0.2	1.29E−01	3.27E−03
	Extraversion	0.001	1.69E−02	2.25E−02
	Aggression	0.3	7.50E−01	9.42E−03
	Antisocial behavior	0.3	7.31E−01	9.32E−03
	Risk tolerance	0.05	6.27E−01	8.64E−03
	SESA	0.001	4.00E−01	5.92E−03
	Educational attainment	0.1	3.48E−01	4.93E−03
	Cognitive performance	0.001	3.32E−01	4.58E−03
	IQ	0.01	9.99E−01	1.00E−02
BIS−10 (N = 186),	Major depressive disorder	0.01	3.33E−01	4.02E−02
Continuous	Bipolar disorder	0.4	3.32E−01	4.02E−02
	Schizophrenia	0.01	1.48E−01	4.63E−02
	Anxiety disorders	1E−04	5.31E−01	3.73E−02
	PTSD	0.01	9.75E−01	3.52E−02
	Anorexia nervosa	0.001	7.45E−01	3.58E−02
	ADHD	0.2	9.20E−01	3.53E−02

	Autism spectrum disorder	0.1	5.59E−01	3.70E−02
	Alzheimer disease	0.5	7.02E−02	5.25E−02
	Insomnia	0.05	3.44E−01	4.00E−02
	Alcohol dependence	0.05	3.90E−02	5.76E−02
	Lifetime cannabis use	0.2	4.68E−01	3.80E−02
	Smoking per day	0.2	6.57E−01	3.63E−02
	Neuroticism	0.2	2.40E−02	6.19E−02
	Extraversion	0.001	5.78E−02	5.42E−02
	Aggression	0.3	5.28E−01	3.73E−02
	Antisocial behavior	0.3	5.92E−02	5.40E−02
	Risk tolerance	0.05	3.12E−01	4.06E−02
	SESA	0.001	4.63E−02	5.61E−02
	Educational attainment	0.1	5.79E−01	3.69E−02
	Cognitive performance	0.001	1.85E−01	4.45E−02
	IQ	0.01	6.86E−01	3.61E−02
BGAH (N = 408), Continuous	Major depressive disorder	0.01	5.66E−04	1.14E−01
	Bipolar disorder	0.4	7.38E−01	8.74E−02
	Schizophrenia	0.01	7.44E−01	8.74E−02

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Anxiety disorders	1E−04	5.71E−01	8.79E−02
PTSD	0.01	8.13E−01	8.73E−02
Anorexia nervosa	0.001	9.19E−01	8.72E−02
ADHD	0.2	1.24E−02	1.01E−01
Autism spectrum disorder	0.1	8.56E−02	9.38E−02
Alzheimer disease	0.5	9.55E−01	8.71E−02
Insomnia	0.05	1.11E−01	9.29E−02
Alcohol dependence	0.05	3.81E−02	9.68E−02
Lifetime cannabis use	0.2	7.08E−01	8.74E−02
Smoking per day	0.2	3.48E−01	8.91E−02
Neuroticism	0.2	2.11E−01	9.07E−02
Extraversion	0.001	3.07E−02	9.76E−02
Aggression	0.3	2.04E−01	9.08E−02
Antisocial behavior	0.3	5.14E−01	8.81E−02
Risk tolerance	0.05	7.37E−02	9.43E−02
SESA	0.001	8.74E−01	8.72E−02
Educational attainment	0.1	1.78E−01	9.12E−02
Cognitive performance	0.001	4.77E−01	8.83E−02

	IQ	0.01	2.54E−01	9.01E−02

Suicide behavior cases included both 230 non-fatal suicide attempters and 178 suicide decedents. Statistical values were from linear regression model adjusted with sex, age

and 10 PCs as covariates. The significance level was set at 0.0023.

Supplementary Table S8. Results of the polygenic risk score analyses for suicide-related clinical scores in controls

Clinical phenotype (N; number of samples), type of trait	PRS	P_t	p	R^2
BIS-10 (N = 340), Continuous	Major depressive disorder	0.01	9.54E−01	3.69E−02
	Bipolar disorder	0.4	3.88E−01	3.90E−02
	Schizophrenia	0.01	8.44E−01	3.70E−02
	Anxiety disorders	1E−04	2.71E−01	4.04E−02
	PTSD	0.01	1.28E−01	4.35E−02
	Anorexia nervosa	0.001	6.11E−01	3.76E−02
	ADHD	0.2	7.62E−01	3.71E−02
	Autism spectrum disorder	0.1	6.95E−01	3.73E−02
	Alzheimer disease	0.5	7.23E−01	3.72E−02
	Insomnia	0.05	2.16E−01	4.13E−02
	Alcohol dependence	0.05	2.61E−01	4.05E−02
	Lifetime cannabis use	0.2	3.10E−01	3.98E−02
	Smoking per day	0.2	3.31E−01	3.96E−02
	Neuroticism	0.2	6.65E−01	3.74E−02
	Extraversion	0.001	1.14E−01	4.40E−02

	Aggression	0.3	1.61E−01	4.25E−02
	Antisocial behavior	0.3	8.83E−01	3.69E−02
	Risk tolerance	0.05	1.45E−02	5.39E−02
	SESA	0.001	6.39E−01	3.75E−02
	Educational attainment	0.1	3.64E−01	3.92E−02
	Cognitive performance	0.001	1.21E−01	4.38E−02
	IQ	0.01	2.17E−01	4.12E−02
BGAH (N = 417), Continuous	Major depressive disorder	0.01	7.78E−01	7.72E−02
	Bipolar disorder	0.4	2.57E−01	7.99E−02
	Schizophrenia	0.01	3.19E−01	7.93E−02
	Anxiety disorders	1E−04	3.01E−02	8.75E−02
	PTSD	0.01	7.48E−01	7.73E−02
	Anorexia nervosa	0.001	6.53E−01	7.75E−02
	ADHD	0.2	3.57E−01	7.90E−02
	Autism spectrum disorder	0.1	2.94E−01	7.95E−02
	Alzheimer disease	0.5	4.32E−01	7.84E−02
	Insomnia	0.05	7.57E−01	7.73E−02
	Alcohol dependence	0.05	8.12E−01	7.72E−02

	Lifetime cannabis use	0.2	1.45E−01	8.18E−02
	Smoking per day	0.2	4.06E−01	7.86E−02
	Neuroticism	0.2	5.86E−01	7.77E−02
	Extraversion	0.001	2.58E−01	7.99E−02
	Aggression	0.3	6.22E−01	7.76E−02
	Antisocial behavior	0.3	4.00E−01	7.86E−02
	Risk tolerance	0.05	3.78E−01	7.88E−02
	SESA	0.001	2.81E−01	7.97E−02
	Educational attainment	0.1	8.86E−01	7.71E−02
	Cognitive performance	0.001	2.88E−02	8.77E−02
	IQ	0.01	9.61E−01	7.71E−02

Statistical values were from linear regression model adjusted with sex, age and 10 PCs as covariates. The significance level was set at 0.0023.

Supplementary Figure S1.   Venn diagram showing the sample overlap for suicide-related clinical scores
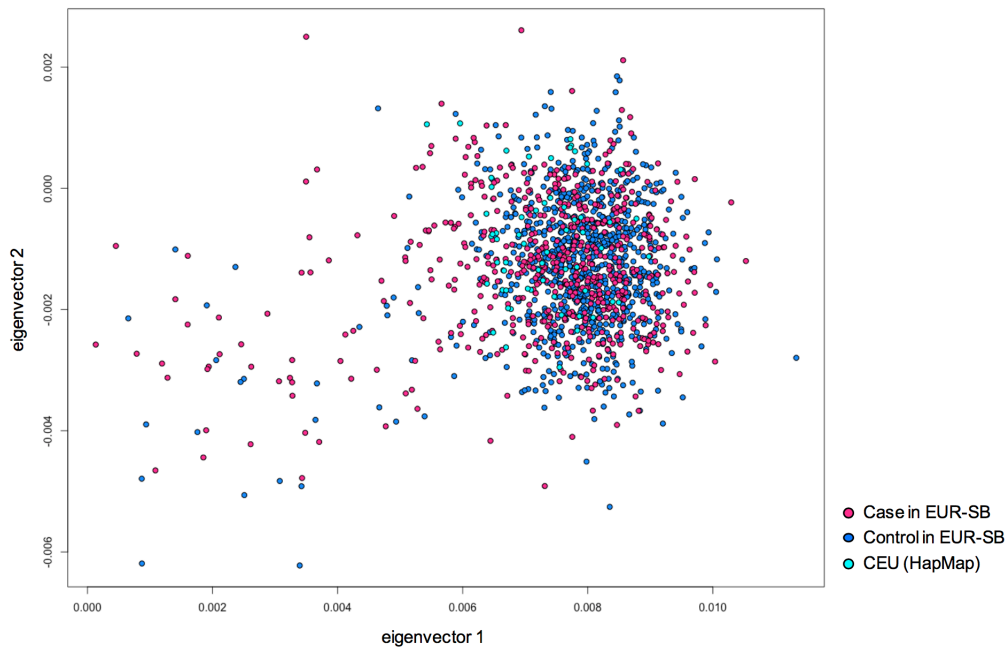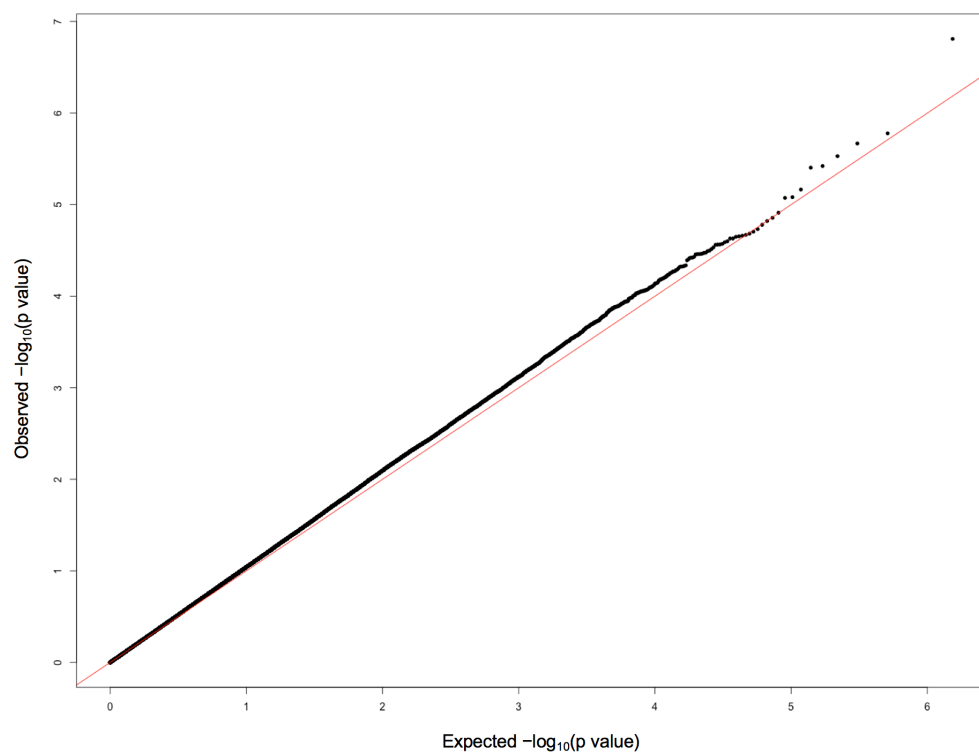

Suicidal behavior cases
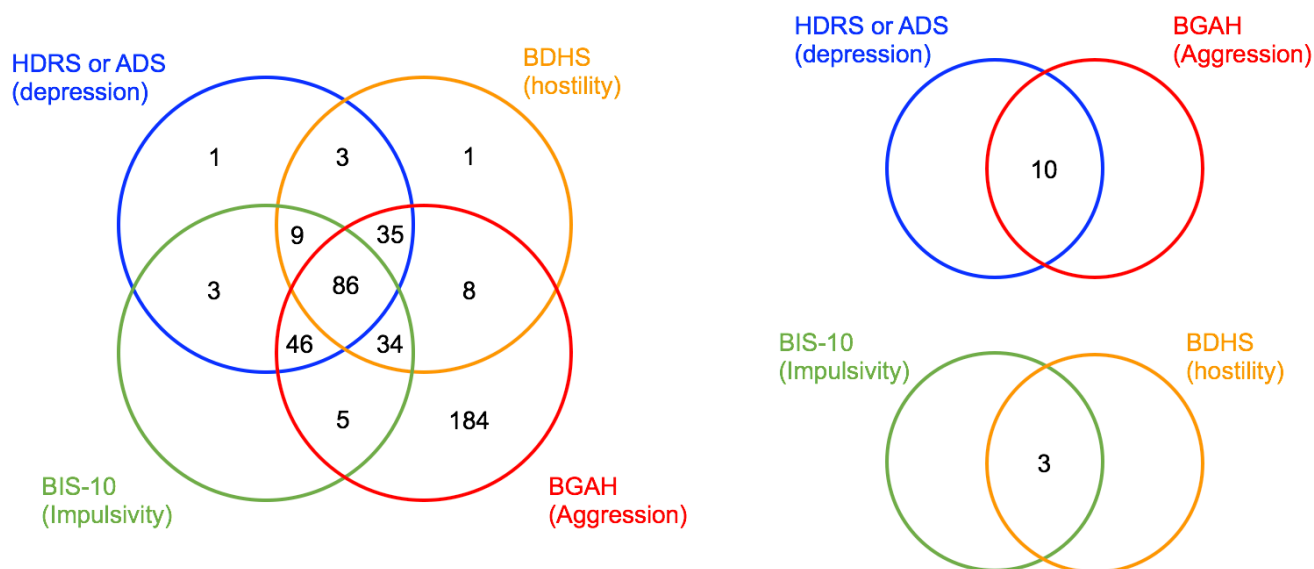
Controls

Supplementary Figure S2.   Results of principal component analysis (PCA) for case, control and the CEU population (CEU of the HapMap) in our GWAS cohort of suicidal behavior
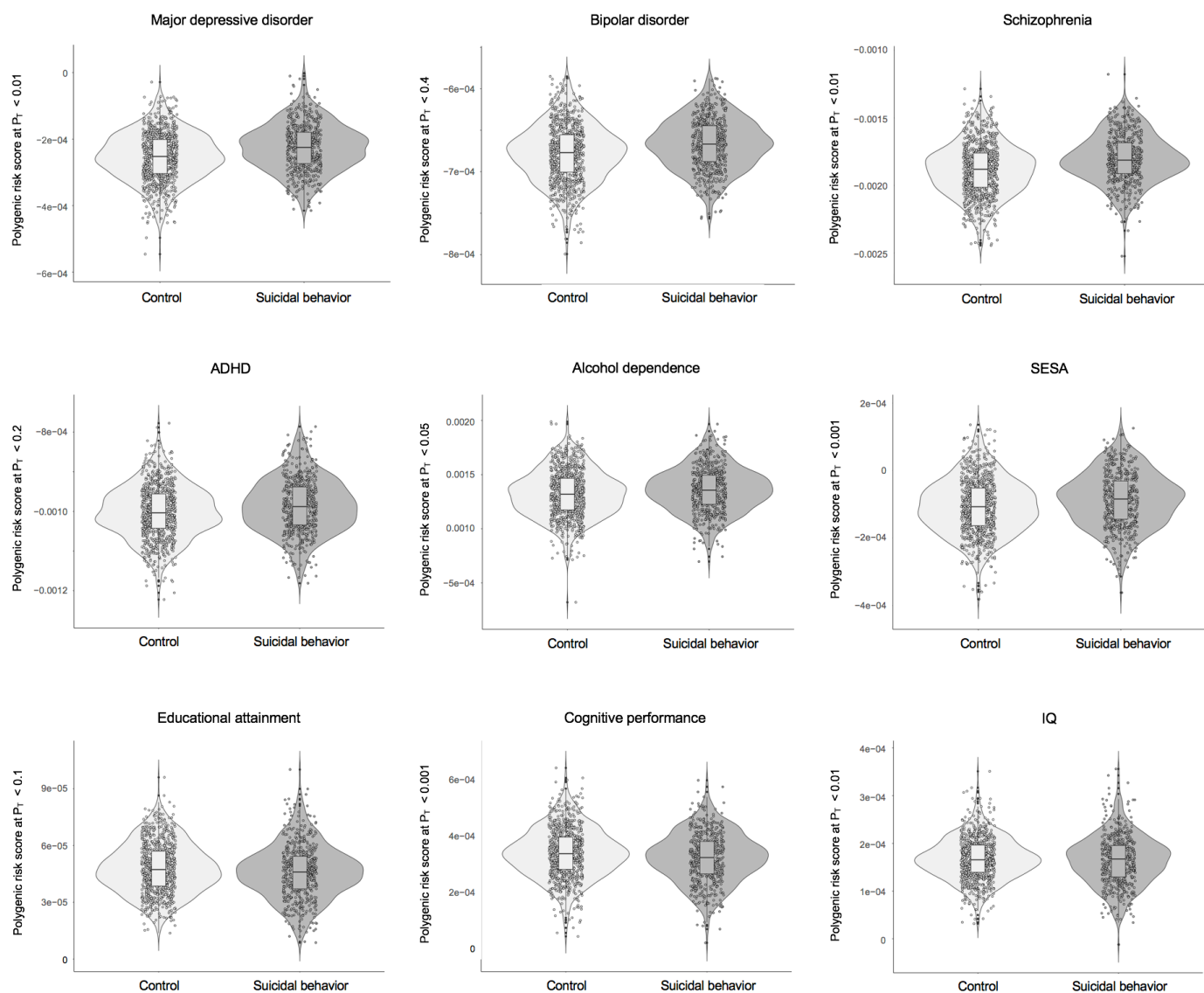
Supplementary Figure S3.   QQ plot of GWAS

QQ plot of GWAS of suicidal behavior (lambda GC = 1.05)

Supplementary Figure S4.   Plot of distribution of polygenic risk scores setting our GWAS of "suicidal behavior vs. control" as target set

Supplementary Figure S5.   Comparison of odds ratio based on polygenic risk score of MDD between whole suicide decedents and suicide decedents without diagnosed and possible MDD

Legend: $2.5 \times 10^{-4} \leq p < 0.05$; $p < 2.5 \times 10^{-4}$

Suicide decedents (N = 317)

Suicide decedents without diagnosed and possible MDD (N = 114)

1.0   1.5   2.0

Odds ratio of suicide death
explained by MDD-PRS