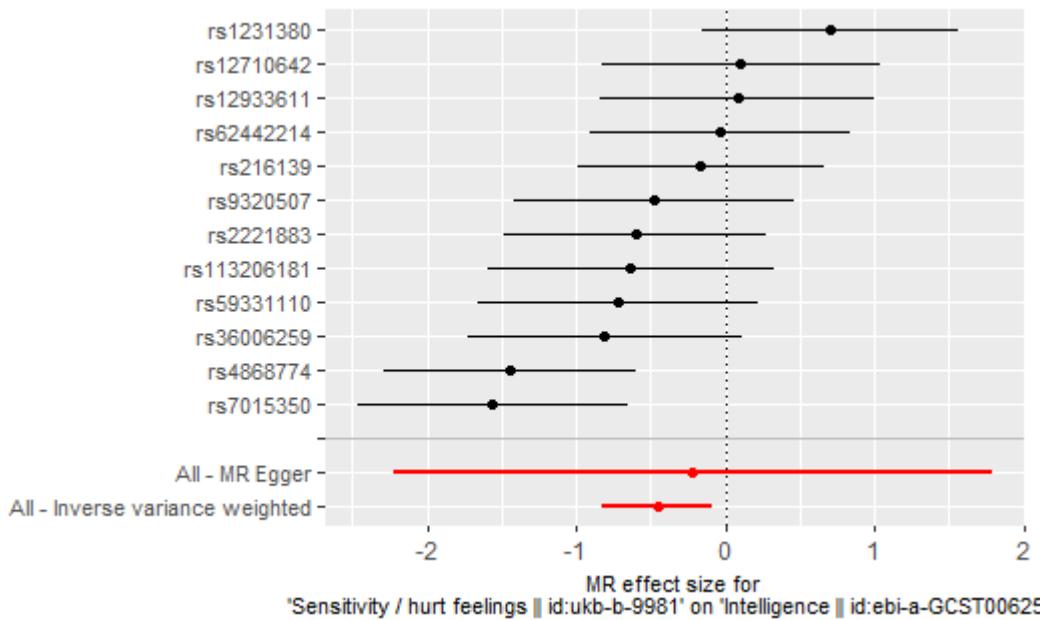
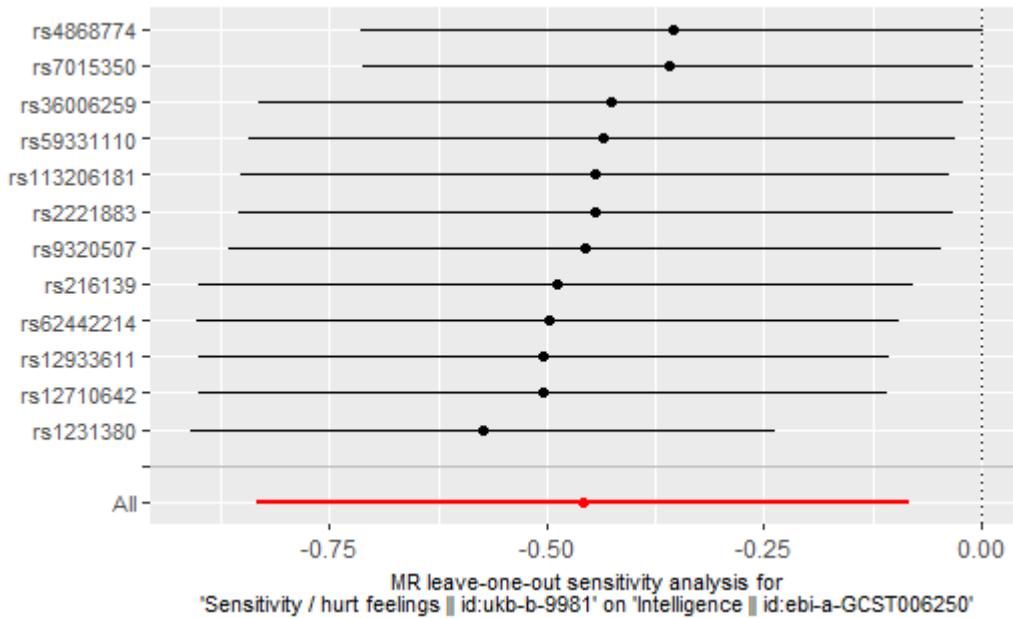


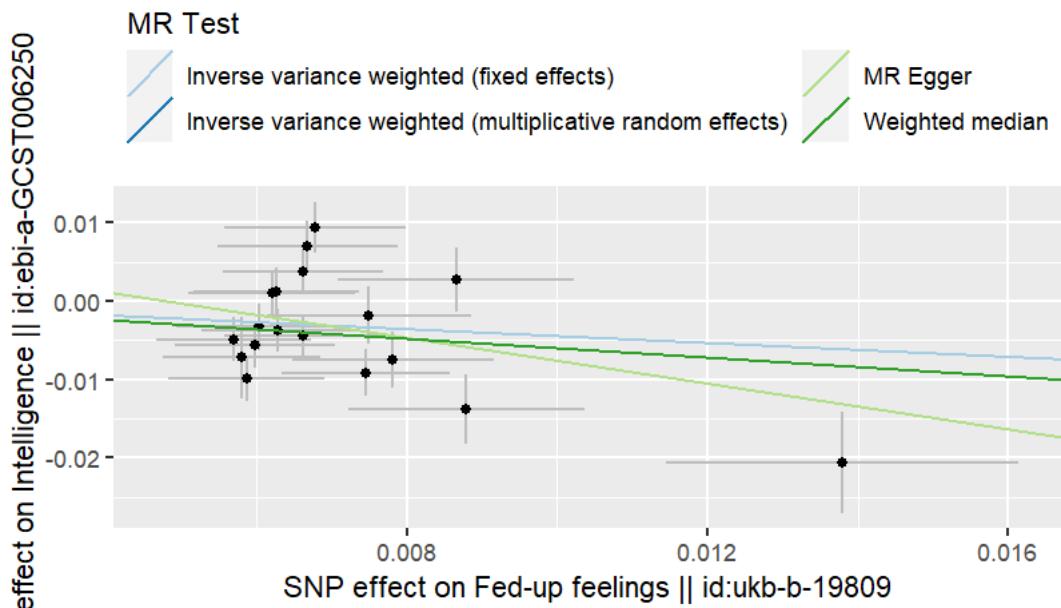
Supplementary Figure 1 Scatter plots for the analysis of sensitivity/hurt feelings on intelligence.



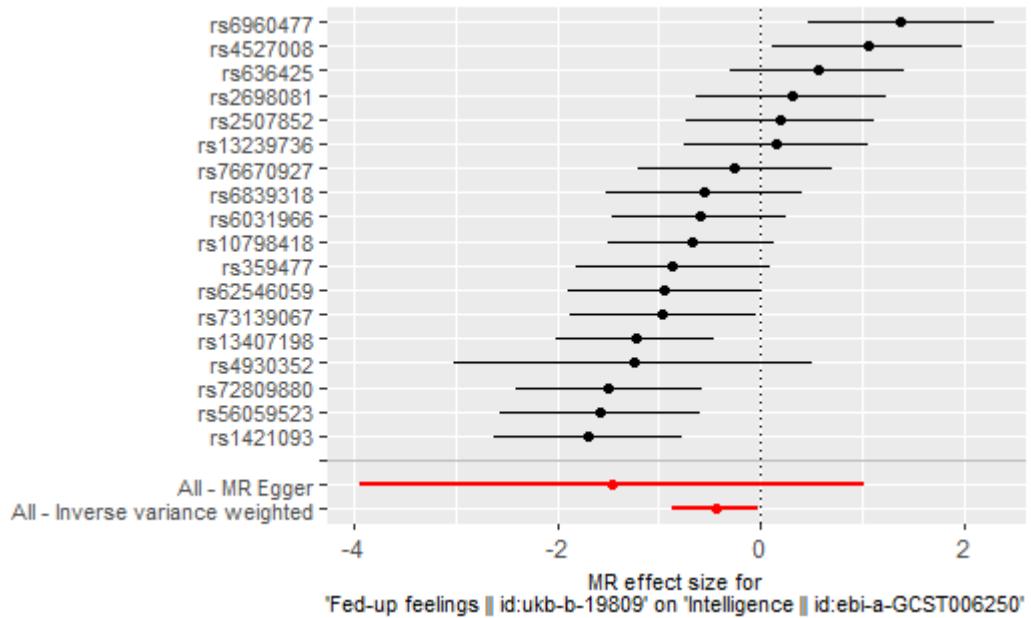
Supplementary Figure 2 Forest plots for the analysis of sensitivity/hurt feelings on intelligence.



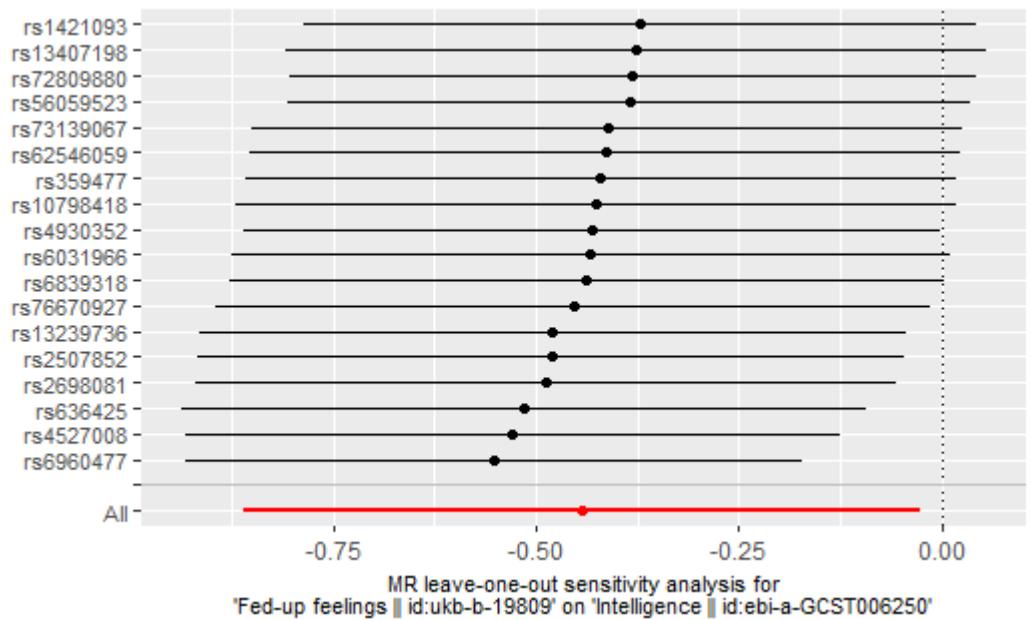
Supplementary Figure 3 Leave-one-out plots for the analysis of sensitivity/hurt feelings on intelligence.



Supplementary Figure 4 Scatter plots for the analysis of fed-up feelings on intelligence.



Supplementary Figure 5 Forest plots for the analysis of fed-up feelings on intelligence.



Supplementary Figure 6 Leave-one-out plots for the analysis of fed-up feelings on intelligence.

Supplementary Table 1 Feelings-related SNPs extracted from GWAS

exposure	pos.exposure	pval.exposure	chr.exposure	se.exposure	SNP	effect_allele.exposure	other_allele.exposure_a	eaf.exposure	trait
	pos.exposure	pval.exposure	chr.exposure	se.exposure	SNP	effect_allele.exposure	other_allele.exposure_a	eaf.exposure	trait
Fed-up feelings	201808507	4.50E-08	1	0.001151	rs77635059	A	G	0.27478	Hypertension,Body mass index
Fed-up feelings	37202767	1.00E-09	1	0.001043	rs570399	A	G	0.585539	Neuroticism
Fed-up feelings	68374828	6.10E-09	1	0.001068	rs11209175	T	C	0.634097	Neuroticism
Fed-up feelings	175839834	2.50E-10	1	0.001048	rs10798418	T	C	0.402661	
Fed-up feelings	204123832	2.30E-08	2	0.001573	rs56059523	C	T	0.120872	
Fed-up feelings	23895901	1.40E-16	2	0.001377	rs34668726	G	C	0.168051	Smoking,Neuroticism
Fed-up	148618754	2.30E-09	2	0.00104	rs7582403	G	A	0.42363	Neuroticism

feelings										
Fed-up feelings	215452493	3.30E-09	2	0.001485	rs9967682	T	G	0.86120 2	Neuroticism	
Fed-up feelings	162836954	6.10E-09	2	0.001048	rs2909456	T	C	0.59833 1	Smoking,Schizophrenia	
Fed-up feelings	212712835	2.10E-11	2	0.001113	rs1340719 8	G	A	0.30460 8		
Fed-up feelings	64188651	1.50E-08	2	0.001038	rs1421093	C	T	0.42588 9		
Fed-up feelings	100930134	2.10E-09	2	0.001069	rs1112382 5	A	G	0.63393 3	Body mass index,	
Fed-up feelings	45342929	3.70E-08	3	0.001362	rs7667092 7	A	G	0.17172 1		
Fed-up feelings	49572140	1.80E-15	3	0.001113	rs4625	G	A	0.30624 3	Education,Body index,Coronary disease	mass artery
Fed-up feelings	85202524	9.60E-11	3	0.001058	rs4856268	C	T	0.61983 7	Body mass index	

Fed-up feelings	16845144	2.30E-08	3	0.001134	rs9857592	A	T	0.288279	Neuroticism
Fed-up feelings	81159417	5.40E-09	3	0.001339	rs73139067	T	C	0.180174	
Fed-up feelings	136499728	1.90E-09	3	0.00107	rs10513014	A	G	0.359089	Body mass index,Neuroticism
Fed-up feelings	18895635	3.60E-08	4	0.001097	rs6839318	A	G	0.325817	
Fed-up feelings	28660824	5.90E-10	4	0.001029	rs10007117	T	A	0.534411	
Fed-up feelings	123122856	7.90E-11	4	0.00226	rs77087420	G	A	0.054578	Depressive symptoms,Neuroticism
Fed-up feelings	45735083	1.30E-10	5	0.001038	rs6451814	T	C	0.431375	Schizophrenia
Fed-up feelings	173305432	3.20E-08	5	0.001031	rs359477	C	T	0.455437	
Fed-up feelings	166004323	3.80E-09	5	0.002341	rs72809880	T	C	0.050653	

Fed-up feelings	98576688	9.50E-09	6	0.001029	rs1872841	A	C	0.515409	Education,Bipolar disorder,Alcohol intake,Body mass index
Fed-up feelings	11959836	1.80E-11	6	0.00199	rs10456089	A	G	0.07846	Neuroticism
Fed-up feelings	117591900	3.20E-09	7	0.001035	rs1989880	G	C	0.455074	Alcohol intaken ,Smoking,Neuroticism,Depressive symptoms
Fed-up feelings	2718989	1.90E-08	7	0.001205	rs6960477	A	G	0.246645	
Fed-up feelings	142327843	1.90E-08	7	0.001105	rs13239736	G	T	0.345945	
Fed-up feelings	8310923	1.80E-15	8	0.001031	rs876954	A	G	0.47762	Body mass index,Neuroticism,Hypertension
Fed-up feelings	116635942	1.00E-09	8	0.00105	rs2721939	T	C	0.600909	Depressive symptoms
Fed-up	26248855	1.60E-08	9	0.001058	rs6254605	A	C	0.39420	

feelings				9			1	
Fed-up feelings	120501644	6.20E-09	9	0.0012	rs2149351	G	T	0.75688 5 Neuroticism
Fed-up feelings	107652144	2.70E-12	10	0.001053	rs7912226	A	T	0.39784 8 Neuroticism
Fed-up feelings	106453832	7.20E-10	10	0.001054	rs1159621 4	A	G	0.40697 1 Smoking,Neuroticism
Fed-up feelings	120180197	4.80E-08	10	0.001266	rs1222047 1	A	G	0.20714 6 Neuroticism
Fed-up feelings	113377488	1.90E-10	11	0.001064	rs7111031	A	C	0.63198 3 Depressive symptoms ,Neuroticism,Alc ohol intake,Schizophrenia
Fed-up feelings	66066993	2.80E-08	11	0.001046	rs4930352	T	G	0.49421 5
Fed-up feelings	83122552	1.10E-08	11	0.001098	rs2507852	T	C	0.32168 6
Fed-up feelings	47144542	3.50E-12	11	0.001218	rs2087215	C	A	0.23093 7 Neuroticism ,Hypertension

Fed-up feelings	119294242	3.70E-08	12	0.001572	rs2698081	G	A	0.87735	
Fed-up feelings	55798206	3.10E-08	13	0.001121	rs7335659	C	T	0.352749	Education
Fed-up feelings	66537882	2.00E-09	13	0.001464	rs57248843	T	A	0.144689	
Fed-up feelings	69704052	1.10E-09	14	0.001074	rs4899292	G	A	0.647455	Neuroticism,Smoking,Education
Fed-up feelings	72169758	1.90E-08	14	0.001035	rs2286135	A	G	0.553576	Neuroticism
Fed-up feelings	75237770	3.30E-11	14	0.001103	rs10144845	T	C	0.683636	Neuroticism
Fed-up feelings	47489021	1.80E-09	15	0.001065	rs715694	G	A	0.384327	Smoking,Alcohol intaken ,Neuroticism ,Education
Fed-up feelings	77996708	6.50E-11	15	0.001028	rs56370262	C	G	0.525957	Neuroticism
Fed-up	13070238	2.80E-08	16	0.001203	rs4527008	G	A	0.24123	

feelings									
Fed-up feelings	5826708	1.10E-08	16	0.001037	rs2118015	G	C	0.436268	
Fed-up feelings	77125714	4.60E-10	16	0.001062	rs636425	C	A	0.378753	
Fed-up feelings	2477787	3.90E-10	17	0.001283	rs10438710	G	A	0.794347	Body mass index,Hearing difficulty ,Neuroticism
									Parkinsons disease,Alcohol
Fed-up feelings	44192568	6.50E-18	17	0.00128	rs4630591	T	C	0.206177	intake,Hearing difficulty,Neuroticism,Education
Fed-up feelings	35138245	7.00E-15	18	0.001096	rs12967855	G	A	0.668856	Smoking,Education,Alcohol intaken,Neuroticism
Fed-up feelings	53252388	1.80E-15	18	0.001436	rs599550	A	G	0.84841	Body mass index,Hearing difficulty ,Depressive symptoms,Neuroticism
Fed-up feelings	50944901	2.10E-11	18	0.001038	rs9807529	G	A	0.437737	Education,Neuroticism

Fed-up feelings	32895631	3.30E-11	19	0.001367	rs10424665	C	A	0.170574	Body mass index
Fed-up feelings	43692633	9.50E-10	20	0.001029	rs6031966	T	G	0.473263	
Guilty feelings	37192741	2.50E-10	1	0.001037	rs1002656	T	C	0.706249	Neuroticism
Guilty feelings	23900629	1.60E-16	2	0.001337	rs56343114	G	C	0.145103	Neuroticism
Guilty feelings	23602602	1.50E-09	2	0.001046	rs34657012	A	C	0.283501	
Guilty feelings	125004689	2.10E-08	2	0.000974	rs779985	C	T	0.377377	
Guilty feelings	81826249	2.10E-10	3	0.000973	rs7638516	C	A	0.376602	Neuroticism
Guilty feelings	113837198	2.00E-09	5	0.001161	rs1469249	A	G	0.210833	Hypertension
Guilty feelings	162242468	2.00E-08	5	0.000945	rs7714000	T	G	0.484429	

Guilty feelings	105382137	5.30E-09	6	0.000943	rs1320364 5	C	T	0.48854 6	
Guilty feelings	11994016	2.30E-08	6	0.00109	rs1221392 0	A	C	0.25163 6	
Guilty feelings	33646861	1.70E-08	6	0.001398	rs3494262 1	T	C	0.13016 8	
Guilty feelings	27728827	3.30E-12	6	0.00107	rs7773070	C	T	0.26189 2	Neuroticism,Schizophrenia
Guilty feelings	11032228	6.60E-09	8	0.000949	rs6601565	G	T	0.52187 6	Body mass index,Hypertension,Smoking ,Neuroticism
Guilty feelings	121646398	4.80E-08	8	0.001127	rs5875364 5	A	C	0.23183 2	
Guilty feelings	64391730	1.50E-08	8	0.001112	rs4739095	A	G	0.76548 6	
Guilty feelings	23736400	3.30E-10	9	0.000954	rs1011977 3	G	A	0.53647 1	Neuroticism
Guilty feelings	4145781	6.80E-09	9	0.000963	rs2380937	C	T	0.40035	Neuroticism

Guilty feelings	120307012	1.40E-09	9	0.002291	rs524440	G	T	0.95365	5	1			
Guilty feelings	57433327	3.60E-10	11	0.001002	rs527528	T	C	0.33002	9	9	Neuroticism,Schizophrenia		
Guilty feelings	13331808	3.00E-13	11	0.000958	rs5576903	A	G	0.59060	4	4	Body mass index,Neuroticism,Hypertension		
Guilty feelings	113245048	7.70E-11	11	0.000953	rs1121458	A	G	0.51176	4	4	Neuroticism		
Guilty feelings	88978545	1.40E-09	11	0.000946	rs4601783	G	A	0.49442	6	6	Hearing difficulty,Neuroticism		
Guilty feelings	82116955	2.30E-08	12	0.000988	rs1922571	T	C	0.63800	9				
Guilty feelings	118791120	1.10E-08	12	0.00124	rs1106891	A	C	0.17490	3	3	Neuroticism		
Guilty feelings	75327443	1.20E-11	14	0.000965	rs722599	C	T	0.39151	6	6	Neuroticism ,Coronary artery disease		

Guilty feelings	78029536	1.70E-08	15	0.000949	rs1243854 2	G	C	0.43662 5	Body index,Neuroticism	mass
Guilty feelings	7667538	1.40E-09	16	0.001014	rs3785232	T	C	0.67332 2	Neuroticism	
Guilty feelings	43810896	5.90E-10	17	0.001136	rs7780406 5	T	C	0.22492 5		
Guilty feelings	64489704	1.60E-08	17	0.000989	rs2109648	A	G	0.65120 5	Neuroticism	
Guilty feelings	35147621	1.20E-10	18	0.001097	rs1296948 0	G	C	0.75282 1	Neuroticism ,Education	
Loneliness, isolation	8476428	4.00E-08	1	0.000811	rs159960	G	A	0.55601 5	Depression,Hypertension,Sc hizophrenia	
Loneliness, isolation	148834364	1.30E-08	2	0.000816	rs6430286	A	G	0.42526 4	Neuroticism	
Loneliness, isolation	212749786	4.60E-09	2	0.000885	rs7433859 5	C	T	0.29079 7	Education	
Loneliness, isolation	82000680	5.20E-09	3	0.000811	rs7626596	A	G	0.567		

Loneliness, isolation	103972357	6.70E-09	5	0.000856	rs30266	A	G	0.32815 3	Body index,Neuroticism,Educa tion	mass
Loneliness, isolation	152204741	1.10E-10	5	0.000864	rs6798889 1	G	C	0.31888 5	Schizophrenia	
Loneliness, isolation	131186393	7.50E-09	6	0.000832	rs7770860	C	T	0.37256 8		
Loneliness, isolation	11959836	2.10E-10	6	0.001557	rs1045608 9	A	G	0.07853 2	Neuroticism	
Loneliness, isolation	12263587	2.20E-08	7	0.000813	rs1095039 4	T	C	0.41893 8	Neuroticism,Depression,Cor onary artery disease	
Loneliness, isolation	120501644	2.70E-08	9	0.00094	rs2149351	G	T	0.75706 9	Neuroticism	
Loneliness, isolation	77768122	9.00E-09	9	0.001341	rs773020	A	G	0.90015		
Loneliness, isolation	96360650	2.20E-11	9	0.000816	rs1329107 9	C	T	0.4232	Neuroticism,Education	
Loneliness,	47676170	3.30E-08	11	0.000803	rs7107356	G	A	0.50666	Body	mass

isolation							9	index,Alzheime rs disease,Neuroticism,Alcohol intake ,Hypertension
Loneliness, isolation	66097739	5.80E-09	17	0.000919	rs6208566 0	G	C	0.74207 1
Loneliness, isolation	53252388	3.50E-14	18	0.001123	rs599550	A	G	0.84840 3
Loneliness, isolation	47648856	1.50E-08	20	0.000856	rs1022688	A	G	0.32953 5
Miserableness	8431607	2.40E-08	1	0.001028	rs3795310	T	C	0.45183 6
Miserableness	174481124	4.30E-08	1	0.002898	rs1209414 3	G	C	0.03302
Miserableness	174618345	6.60E-10	1	0.003389	rs1408793 15	C	G	0.02404 5
Miserableness	243264751	2.30E-09	1	0.001113	rs1208027 7	A	G	0.31399

Miserableness	24404064	3.80E-11	2	0.001165	rs5999610 4	T	C	0.26245 3	
Miserableness	199497285	1.70E-08	2	0.001036	rs1455349	G	A	0.46241 4	Education
Miserableness	58078939	3.10E-15	2	0.001073	rs6811997 7	G	T	0.35505 2	Epilepsy,Schizophrenia,Neuroticism
Miserableness	148641809	1.10E-09	2	0.001036	rs2113792	C	T	0.43527	Neuroticism
Miserableness	172973900	1.10E-08	2	0.00108	rs1301840 7	C	T	0.34228 6	
Miserableness	226255655	2.20E-08	2	0.001255	rs1018457 2	C	T	0.78850 5	smoked
Miserableness	49213637	1.30E-11	3	0.001236	rs9586	T	C	0.77837 5	Body mass index,Education
Miserableness	107198451	4.60E-10	3	0.001042	rs2090408	T	G	0.43136 8	Neuroticism
Miserableness	116969737	3.80E-11	3	0.00105	rs1551840	A	G	0.39792 7	Neuroticism
Miserableness	136499728	2.80E-08	3	0.001069	rs1051301	A	G	0.35894	Body mass

					4			9	index,Neuroticism
Miserableness	35433776	5.30E-09	3	0.002041	rs6225868 5	T	C	0.06849 7	
Miserableness	18674644	2.60E-08	3	0.00117	rs4619804	C	A	0.73739 7	Body mass
Miserableness	123122856	3.70E-12	4	0.002256	rs7708742 0	G	A	0.05462 9	Depressive symptoms,Neuroticism
Miserableness	28758580	2.10E-09	6	0.002101	rs6925732	C	T	0.06350 1	Body mass
Miserableness	11959836	1.80E-08	6	0.001988	rs1045608 9	A	G	0.07841 8	Neuroticism
Miserableness	28548674	2.10E-10	6	0.002568	rs1469186 48	A	G	0.04260 7	Alcohol intaken,Body mass
Miserableness	92583818	2.40E-08	6	0.0011	rs1220522 0	A	T	0.68016 9	index,Neuroticism
Miserableness	2079744	3.50E-13	7	0.001223	rs2056477	C	G	0.22809 8	
Miserableness	117510621	5.20E-09	7	0.001123	rs1323918	T	C	0.30264	Neuroticism,diabetes,Depre

					6		7	ssive symptoms
Miserableness	10187716	6.50E-13	8	0.001175	rs1325788 7	C	T	0.35887 9
Miserableness	10243101	3.20E-13	8	0.001034	rs6601450	T	G	0.45427 5
Miserableness	23301612	2.00E-09	9	0.001073	rs1075741 1	C	T	0.64184 8
Miserableness	96186490	8.70E-09	9	0.001497	rs1255504 7	G	A	0.13601
Miserableness	11421771	2.30E-09	9	0.001046	rs7045135	C	T	0.40415
Miserableness	106454672	1.50E-16	10	0.001051	rs1159923 6	C	T	0.41111 4
Miserableness	127752288	4.30E-08	10	0.0012	rs1052659	G	C	0.24500 4
Miserableness	16382321	6.00E-09	11	0.001163	rs7932056	A	G	0.27806 9

Miserableness	47336320	6.00E-14	11	0.001146	rs7944584	T	A	0.27690	Alzheimers	disease,Body						
Miserableness	112855354	2.10E-11	11	0.001186	rs7128707	A	T	0.24898	mass							
Miserableness	113317745	2.80E-12	11	0.001063	rs1760161	C	G	0.38404	index,Neuroticism,Hyperte							
Miserableness	57682956	9.40E-10	12	0.001791	rs6193759	T	C	0.09406	Smoking,Neuroticism							
Miserableness	109879292	1.60E-08	12	0.001105	rs1160835	C	T	0.31507	Alcohol							
Miserableness	66537882	1.50E-08	13	0.001461	rs5724884	T	A	0.14474	intake,Neuroticism,Schizop							
Miserableness	80188702	9.90E-09	13	0.001058	rs9601250	T	C	0.37532	hrenia							
Miserableness	78002360	3.20E-10	15	0.001025	rs4578613	T	A	0.52596	Schizophrenia							

									2
Miserableness	52218152	2.20E-09	16	0.001038	rs8054155	G	A	0.45053	
Miserableness	6324967	4.60E-08	16	0.001157	rs1085267 3	A	G	0.72885 8	Neuroticism
Miserableness	2589488	8.60E-13	17	0.001055	rs3599406 0	T	A	0.39046 4	Neuroticism,Hearing difficulty
Miserableness	44221836	4.80E-13	17	0.001324	rs2696589	T	C	0.20276 2	Neuroticism,Alcohol intake,Hearing difficulty
Miserableness	16139149	1.50E-09	17	0.001027	rs1294585 5	C	T	0.47769 7	
Miserableness	57853214	2.10E-09	17	0.001127	rs2645466	C	A	0.29095 4	
Miserableness	35183274	1.40E-10	18	0.001232	rs5573123 1	G	C	0.22477	Neuroticism,Education
Miserableness	53264343	5.80E-10	18	0.001458	rs596668	G	A	0.85493 4	Body mass index,Hearing difficulty,Depressive symptoms,Neuroticism
Miserableness	50727691	2.60E-09	18	0.001048	rs6209923	T	C	0.39746	Education,Alcohol

					2			4	intake ,Neuroticism,Depressive symptoms
Nervous feelings	49258678	2.40E-08	1	0.002397	rs12071377	G	A	0.035989	
Nervous feelings	61742693	5.00E-10	1	0.000893	rs332828	A	G	0.456999	
Nervous feelings	98436232	5.20E-11	1	0.001077	rs12067700	G	T	0.218908	Schizophrenia,Education
Nervous feelings	225561346	8.00E-11	1	0.000931	rs7518221	C	T	0.647259	Body mass index
Nervous feelings	148537061	1.20E-08	2	0.001096	rs730356	A	T	0.210306	Neuroticism
Nervous feelings	212334445	4.10E-08	2	0.002858	rs75344028	A	G	0.024685	
Nervous feelings	58924285	1.70E-08	2	0.001746	rs75892241	G	A	0.070944	
Nervous feelings	104071129	7.50E-13	2	0.000889	rs11685036	C	G	0.510702	Alcohol intake ,Body mass index,Smoked

Nervous feelings	199755743	5.10E-09	2	0.000938	rs12328463	A	G	0.657652	
Nervous feelings	85618112	3.30E-19	3	0.000919	rs17460541	T	G	0.625079	Alcohol intake,Body mass index,Smoking
Nervous feelings	85766025	4.40E-11	3	0.001035	rs9835772	T	A	0.243713	Body mass index,Smoked
Nervous feelings	136031358	3.30E-12	3	0.000904	rs527888	C	G	0.408208	Neuroticism,Schizophrenia
Nervous feelings	52268866	5.40E-13	3	0.000918	rs353547	C	T	0.62327	Body mass index,Autism spectrum disorder or schizophrenia
Nervous feelings	104933753	7.70E-09	4	0.001117	rs10034259	C	A	0.20039	
Nervous feelings	46240287	8.90E-09	4	0.0009	rs535066	T	G	0.567495	Epilepsy
Nervous feelings	90737327	5.80E-11	4	0.000892	rs974711	A	G	0.455028	
Nervous	162718310	4.60E-08	4	0.001042	rs1434611	G	C	0.76167	

feelings									6
Nervous feelings	116927480	2.10E-08	5	0.001434	rs1131540 26	G	T	0.10894	
Nervous feelings	87618728	1.50E-10	5	0.000894	rs247913	C	G	0.46157 1	Alcohol intake ,Education
Nervous feelings	126704795	3.90E-09	6	0.000897	rs9388490	T	C	0.44000 2	Diabetes,Education,Coronary artery disease
Nervous feelings	396321	1.50E-10	6	0.001057	rs1220359 2	T	C	0.21967 6	Progressive supranuclear palsy
Nervous feelings	31740454	7.60E-17	6	0.000897	rs805825	A	G	0.43960 9	Diabetes ,Neuroticism,Schizophrenia
Nervous feelings	32739967	6.60E-09	6	0.000889	rs1383264	T	A	0.53987 4	Diabetes ,High cholesterol
Nervous feelings	98583468	2.60E-09	6	0.001353	rs2505060	A	G	0.12416 8	Neuroticism
Nervous feelings	82789591	2.80E-10	7	0.001056	rs7318057 3	T	A	0.23037 2	Neuroticism
Nervous	97374619	3.40E-10	7	0.000895	rs6967888	C	T	0.51688	

feelings									4
Nervous feelings	82062099	1.80E-09	7	0.000908	rs4313099	C	A	0.60056	
Nervous feelings	4937757	2.80E-08	8	0.000969	rs2407746	G	C	0.30506	
Nervous feelings	10609955	2.90E-19	8	0.000903	rs1327602	A	G	0.57142	Body mass index,Neuroticism,Hypertension
Nervous feelings	143316970	8.70E-13	8	0.000895	rs1326259	G	A	0.56092	Alcohol usually taken with meals,Self-reported hypertension,Schizophrenia
Nervous feelings	11585208	1.60E-08	9	0.001029	rs1095996	T	C	0.25008	Body mass index,Neuroticism score
Nervous feelings	126490123	5.10E-10	9	0.000994	rs1044175	C	T	0.27858	
Nervous feelings	104684392	2.90E-15	10	0.00092	rs7913682	A	T	0.38532	Body mass index,Smoking,Schizophrenia

Nervous feelings	107050168	3.40E-08	10	0.001376	rs2930456	C	G	0.880684	Neuroticism
Nervous feelings	93064890	8.90E-09	10	0.000933	rs2936567	G	A	0.34775	Body mass index
Nervous feelings	27722278	2.40E-09	11	0.001014	rs61888800	T	G	0.259446	Body mass index,Smoking
Nervous feelings	113283459	3.50E-08	11	0.000893	rs6277	A	G	0.549029	Neuroticism
Nervous feelings	13280635	7.30E-10	11	0.0009	rs12786955	C	G	0.579714	Body mass index,Neuroticism ,Hypertension
Nervous feelings	47293799	1.40E-10	11	0.001008	rs10501320	C	G	0.264391	Alzheimers disease,Body mass index,Neuroticism,Hypertension,Diabetes
Nervous feelings	99520594	2.10E-08	12	0.001089	rs17367186	G	T	0.21396	Body mass index
Nervous	108618630	1.40E-09	12	0.001011	rs3764002	T	C	0.26144	

feelings									6	
Nervous feelings	59135356	1.70E-10	13	0.001073	rs2869246 8	A	G	0.22030 4	Neuroticism	
Nervous feelings	75346740	8.00E-14	14	0.000892	rs2842637 4	T	C	0.45472 2	Neuroticism	
Nervous feelings	41989091	2.80E-09	15	0.003094	rs6173607 4	A	C	0.02108 6		
Nervous feelings	67475488	9.40E-09	15	0.001035	rs1015259 5	G	C	0.24967 5	Smoking	
Nervous feelings	87503925	7.40E-09	16	0.001135	rs1111727 5	G	C	0.18916 7		
Nervous feelings	30015337	3.30E-10	16	0.000891	rs4787491	G	A	0.53525 3	Body mass index,Alcohol intake,Schizophrenia	
Nervous feelings	65038674	5.80E-09	16	0.001432	rs35182	A	G	0.10969 4		
Nervous feelings	29546765	1.80E-08	17	0.001287	rs1788446 6	G	A	0.13849 9		
Nervous	43856639	3.80E-16	17	0.001065	rs6205706	G	C	0.22405	Neuroticism,Education,Neu	

feelings					1			4	roticism
Nervous feelings	35208320	4.80E-09	18	0.001183	rs1427041	G	A	0.82964	Neuroticism,Education,Neuroticism
Nervous feelings	57766512	3.40E-09	18	0.001034	rs1539952	G	A	0.24823	Body mass index,Coronary artery disease,Diabetes,Obesity ,Alcohol intake
Nervous feelings	46144814	9.50E-11	19	0.001687	rs28602630	A	G	0.078638	Neuroticism
Nervous feelings	14485772	2.20E-09	20	0.001097	rs1569998	C	A	0.208301	
Nervous feelings	32987687	1.20E-09	20	0.001274	rs62212171	C	T	0.142471	Neuroticism
Nervous feelings	61145196	2.60E-09	20	0.000956	rs12479469	A	G	0.342654	
Nervous feelings	41464434	7.60E-09	21	0.00096	rs2205129	A	G	0.314986	
Nervous	41753603	2.90E-10	22	0.000976	rs1109004	A	G	0.30725	Neuroticism,Smoking,,Schiz

feelings					5		9	ophrenia
Sensitivity / hurt feelings	110046195	9.00E-09	1	0.001035	rs528199	C	A	0.53633 High cholesterol
Sensitivity / hurt feelings	53707953	3.10E-08	1	0.001043	rs1778538 2	G	A	0.40531 6 Bipolar disorder
Sensitivity / hurt feelings	181698693	3.40E-08	1	0.001195	rs4652676	A	G	0.24456 8 Neuroticism
Sensitivity / hurt feelings	197702401	3.60E-10	1	0.001275	rs2488401	T	C	0.20689 4 Neuroticism
Sensitivity / hurt feelings	17494738	2.00E-08	2	0.001026	rs1271064 2	C	T	0.48895 6
Sensitivity / hurt feelings	148641809	1.90E-12	2	0.001036	rs2113792	C	T	0.43528 2 Neuroticism
Sensitivity / hurt feelings	185459544	8.70E-12	2	0.00112	rs1978573	T	C	0.30004 6 Neuroticism,Schizophrenia
Sensitivity / hurt feelings	110248674	2.40E-09	3	0.001027	rs2221883	A	G	0.49961 4
Sensitivity /	81826249	1.90E-09	3	0.001059	rs7638516	C	A	0.37645 Neuroticism

hurt feelings										6	
										Schizophrenia,Alcohol	
Sensitivity	/	103146890	9.80E-10	4	0.001908	rs35518360	T	A	0.083318	intake,Body index,Diabetes ,Hypertension	mass
hurt feelings											n
Sensitivity	/	166054544	1.60E-09	5	0.00138	rs4868774	G	A	0.169673		
hurt feelings											
Sensitivity	/	149440723	2.70E-10	5	0.001046	rs216139	A	G	0.592709		
hurt feelings											
Sensitivity	/	97749935	3.10E-08	6	0.0013	rs9320507	A	G	0.194531		
hurt feelings											
Sensitivity	/	32088854	4.40E-08	6	0.001159	rs2228628	C	G	0.265175	Neuroticism ,Hypertension	
hurt feelings											
Sensitivity	/	126380109	2.50E-15	7	0.001025	rs35825148	C	T	0.487496	Neuroticism	
hurt feelings											
Sensitivity	/	39147473	2.40E-09	7	0.001504	rs62442214	G	A	0.136005		
hurt feelings											
Sensitivity	/	116650468	2.10E-08	8	0.001085	rs727582	G	A	0.34042	Diabetes,Body mass index	

hurt feelings									4
Sensitivity / hurt feelings	137025090	7.30E-09	8	0.001045	rs7015350	G	A	0.56775	
Sensitivity / hurt feelings	11040647	1.40E-12	8	0.001028	rs7814499	G	A	0.52095	Body mass index,Neuroticism,Hypertension,Spinal injury,Smoking
Sensitivity / hurt feelings	58538263	4.70E-08	8	0.001032	rs1451149	A	T	0.44190	
Sensitivity / hurt feelings	11522951	1.00E-09	9	0.001192	rs958538	C	T	0.24692	Body mass index,Neuroticism
Sensitivity / hurt feelings	25763180	2.30E-08	9	0.0016	rs1231380	T	C	0.88323	
Sensitivity / hurt feelings	98264942	2.00E-10	9	0.001764	rs2842748	C	A	0.09387	Neuroticism
Sensitivity / hurt feelings	23736400	5.40E-09	9	0.001039	rs1011977	G	A	0.53659	Neuroticism
Sensitivity / hurt feelings	96279435	1.20E-08	9	0.002103	rs1132061	G	T	0.06382	
					81			4	

Sensitivity / hurt feelings	63546950	3.00E-09	10	0.001047	rs2675625	A	C	0.581155	Hypertension
Sensitivity / hurt feelings	118901262	4.40E-08	11	0.001052	rs3759012	T	C	0.387606	Body mass index
Sensitivity / hurt feelings	78114977	1.20E-08	11	0.001492	rs7937277	G	C	0.137715	
Sensitivity / hurt feelings	57401400	1.50E-08	11	0.001175	rs73480560	T	C	0.262533	Alcohol intaken,Neuroticism
Sensitivity / hurt feelings	113318907	2.30E-13	11	0.001034	rs4936272	C	T	0.514921	Neuroticism
Sensitivity / hurt feelings	118585698	2.30E-08	12	0.001404	rs7974375	T	G	0.161315	Neuroticism
Sensitivity / hurt feelings	110002777	1.30E-10	12	0.001035	rs10850379	T	C	0.430111	Hearing difficulty ,Neuroticism
Sensitivity / hurt feelings	23604659	1.30E-08	14	0.001091	rs28716277	C	T	0.345549	Neuroticism
Sensitivity / hurt feelings	69485347	1.10E-08	14	0.001066	rs440712	A	G	0.619548	Education

Sensitivity / hurt feelings	30268871	1.20E-08	14	0.00143	rs3600625 9	T	C	0.15774 3	Autism spectrum disorder
Sensitivity / hurt feelings	91426560	1.40E-11	15	0.001032	rs4702	A	G	0.55635 7	or schizophrenia,Hypertension ,Coronary artery disease
Sensitivity / hurt feelings	87445839	8.10E-09	16	0.001223	rs3748400	T	C	0.77428 1	Neuroticism
Sensitivity / hurt feelings	13765383	1.20E-08	16	0.001061	rs1293361 1	G	T	0.37606 7	
Sensitivity / hurt feelings	43844559	1.80E-32	17	0.001239	rs5619450 9	G	T	0.22167 2	Alcohol intake,Neuroticism ,Education
Sensitivity / hurt feelings	35201153	2.10E-18	18	0.00108	rs1166305 0	G	T	0.65473	Neuroticism ,Education
Sensitivity / hurt feelings	77493053	2.30E-08	18	0.00103	rs5933111 0	A	G	0.53839 6	
Sensitivity /	19487302	1.90E-08	19	0.001075	rs3427710	T	C	0.64995	High

hurt feelings				9			2	cholesterol,Schizophrenia
Worrier	/							
anxious	7031225	7.00E-09	1	0.001041	rs6685497	A	T	0.42021
feelings							9	
Worrier	/							
anxious	171676795	2.40E-08	1	0.00132	rs236900	A	G	0.18812
feelings							2	
Worrier	/							
anxious	21648756	7.00E-10	1	0.00127	rs2745246	T	A	0.20971
feelings							2	
Worrier	/							
anxious	197704717	1.30E-14	1	0.001258	rs1764152	T	C	0.20989
feelings					4			Body mass
Worrier	/							
anxious	44107428	5.40E-11	1	0.001092	rs2367724	T	C	0.67278
feelings								Education,Smoking,Schizophrenia,
Worrier	/							
anxious	72816147	3.50E-08	1	0.00129	rs2815748	A	G	0.80339
							4	Body mass
								index,Neuroticism,Smoking,

feelings										Hypertension
Worrier	/									
anxious	157053380	4.90E-08	2	0.001156	rs7567451	T	G	0.73065	1	Neuroticism
feelings										
Worrier	/									
anxious	168640233	2.00E-08	2	0.001235	rs1004366	C	A	0.22717	4	Neuroticism
feelings										
Worrier	/									
anxious	16075065	2.50E-09	2	0.001039	rs1168271	G	T	0.57623	3	Neuroticism
feelings					6					
Worrier	/									
anxious	199686506	8.40E-10	2	0.001127	rs2344700	G	A	0.32144	3	
feelings										
Worrier	/									
anxious	58169418	9.70E-10	2	0.001053	rs2678897	A	G	0.60746	5	Neuroticism,Alcohol intake,Schizophrenia
feelings										
Worrier	/									
anxious	148576732	2.10E-08	2	0.00106	rs1339955	C	T	0.37797	7	Neuroticism
				3						

feelings											
Worrier	/										
anxious	35724596	3.80E-12	3	0.001057	rs9811585	G	T	0.38080	Body		mass
feelings								5	index,Neuroticism		
Worrier	/										
anxious	107382291	4.40E-08	3	0.00116	rs3595784	C	T	0.26774			
feelings					2			8			
Worrier	/										
anxious	50239803	2.10E-08	3	0.001649	rs5746217	A	G	0.10875			
feelings					0			5	Neuroticism		
Worrier	/										
anxious	85513793	5.80E-21	3	0.001066	rs6225071	G	A	0.63611	Alcohol intake ,Body	mass	
feelings					3			4	index,Smoked		
Worrier	/										
anxious	52893465	1.00E-17	3	0.001127	rs6798941	T	C	0.29585	Body		mass
feelings								2	index,Schizophrenia		
Worrier	/										
anxious	85766025	1.80E-08	3	0.001195	rs9835772	T	A	0.24358	Body mass index,Smoked,		
								9			

feelings											
Worrier	/										
anxious	87026675	1.50E-08	3	0.004766	rs1135513 39	A	G	0.01326 1		Neuroticism	
feelings											
Worrier	/										
anxious	134715784	2.10E-08	3	0.001037	rs194179	G	A	0.43263 8		Neuroticism	
feelings											
Worrier	/										
anxious	136371691	7.50E-14	3	0.001046	rs6439649	T	G	0.60140 7		Neuroticism,Schizophrenia	
feelings											
Worrier	/										
anxious	105007016	1.50E-09	4	0.001264	rs1173546 5	T	A	0.20859 3			
feelings											
Worrier	/										
anxious	131022733	1.40E-08	4	0.001811	rs1740565 1	C	G	0.0988			
feelings											
Worrier	/										
anxious	183080946	5.90E-09	4	0.001134	rs2309592	A	G	0.30212 7			

feelings									
Worrier	/								
anxious	119272813	2.50E-08	4	0.001418	rs7669243	A	T	0.84511	4
feelings									
Worrier	/								
anxious	87822672	1.60E-08	5	0.001034	rs2194027	A	T	0.48513	Alcohol
feelings									8 intake ,Smoked,Education
Worrier	/								
anxious	102627355	9.20E-11	5	0.001207	rs187580	G	T	0.23795	3
feelings									
Worrier	/								
anxious	122088890	5.50E-09	5	0.001048	rs922140	G	A	0.60172	6
feelings									
Worrier	/								
anxious	164635015	1.20E-10	5	0.001066	rs1833718	C	T	0.63223	9
feelings									
Worrier	/								
anxious	31610529	3.70E-14	6	0.001026	rs1077393	G	A	0.47706	Diabetes,Coronary artery disease,Multiple

feelings										sclerosis,High
Worrier	/									cholesterol,Hypertension,Sc
anxious	32592582	2.80E-08	6	0.001303	rs9271657	C	T	0.21570	4	hizophrenia
feelings										
Worrier	/									
anxious	12014079	2.10E-12	6	0.001028	rs1321375	C	T	0.50198	1	Diabetes ,Schizophrenia
feelings					2					
Worrier	/									
anxious	7244181	4.00E-08	7	0.001044	rs6463656	T	C	0.41461	8	Neuroticism
feelings										
Worrier	/									
anxious	86257016	4.20E-11	7	0.00104	rs274640	A	G	0.41412	1	Hearing
feelings										difficulty ,Neuroticism
Worrier	/									
anxious	127422539	8.80E-12	7	0.001045	rs1197193	G	T	0.40760	9	
feelings					5					

Worrier	/									
anxious	59116160	5.10E-10	13	0.00124	rs4444227	T	C	0.22078	Neuroticism	
feelings										
Worrier	/									
anxious	94945685	4.30E-08	13	0.001032	rs9524410	G	A	0.48307		
feelings								9		
Worrier	/									
anxious	75123374	5.70E-13	14	0.001025	rs1243435	A	C	0.52063	Neuroticism	
feelings					6			2		
Worrier	/									
anxious	46428976	3.80E-09	15	0.001028	rs7183547	C	T	0.53769		
feelings								1		
Worrier	/									
anxious	7666664	5.80E-11	16	0.00106	rs5599750	C	G	0.60904	Neuroticism,Education	
feelings					7			3		
Worrier	/									
anxious	31166028	1.60E-09	16	0.00108	rs1210277	C	T	0.63173	Body mass index	
feelings					6			1		

Worrier	/										
anxious	18596234	1.30E-09	20	0.001054	rs6081247	T	A	0.38316			
feelings								7			
Worrier	/										
anxious	41359786	6.60E-09	22	0.001192	rs2413631	A	G	0.24885			
feelings								9			Neuroticism,Schizophrenia

Supplementary Table 2 The independent SNPs excluded confounding factors

Exposure	SNP	Effect_allele.exposure	Other_allele.exposure
Fed-up feelings	rs10798418	T	C
Fed-up feelings	rs56059523	C	T
Fed-up feelings	rs13407198	G	A
Fed-up feelings	rs1421093	C	T
Fed-up feelings	rs76670927	A	G
Fed-up feelings	rs73139067	T	C
Fed-up feelings	rs6839318	A	G
Fed-up feelings	rs10007117	T	A
Fed-up feelings	rs359477	C	T
Fed-up feelings	rs72809880	T	C
Fed-up feelings	rs6960477	A	G
Fed-up feelings	rs13239736	G	T
Fed-up feelings	rs13257887	C	T
Fed-up feelings	rs62546059	A	C
Fed-up feelings	rs4930352	T	G
Fed-up feelings	rs2507852	T	C

Fed-up feelings	rs2698081	G	A
Fed-up feelings	rs57248843	T	A
Fed-up feelings	rs4527008	G	A
Fed-up feelings	rs2118015	G	C
Fed-up feelings	rs636425	C	A
Fed-up feelings	rs6031966	T	G
Guilty feelings	rs34657012	A	C
Guilty feelings	rs779985	C	T
Guilty feelings	rs7714000	T	G
Guilty feelings	rs13203645	C	T
Guilty feelings	rs12213920	A	C
Guilty feelings	rs34942621	T	C
Guilty feelings	rs58753645	A	C
Guilty feelings	rs4739095	A	G
Guilty feelings	rs524440	G	T
Guilty feelings	rs1922571	T	C
Guilty feelings	rs77804065	T	C
Loneliness, isolation	rs7626596	A	G

Loneliness, isolation	rs7770860	C	T
Loneliness, isolation	rs773020	A	G
Miserableness	rs12094143	G	C
Miserableness	rs140879315	C	G
Miserableness	rs12080277	A	G
Miserableness	rs59996104	T	C
Miserableness	rs13018407	C	T
Miserableness	rs62258685	T	C
Miserableness	rs12205220	A	T
Miserableness	rs2056477	C	G
Miserableness	rs13257887	C	T
Miserableness	rs1052659	G	C
Miserableness	rs57248843	T	A
Miserableness	rs9601250	T	C
Miserableness	rs8054155	G	A
Miserableness	rs12945855	C	T
Miserableness	rs2645466	C	A
Nervous feelings	rs12071377	G	A

Nervous feelings	rs332828	A	G
Nervous feelings	rs75344028	A	G
Nervous feelings	rs75892241	G	A
Nervous feelings	rs12328463	A	G
Nervous feelings	rs10034259	C	A
Nervous feelings	rs974711	A	G
Nervous feelings	rs1434611	G	C
Nervous feelings	rs113154026	G	T
Nervous feelings	rs6967888	C	T
Nervous feelings	rs4313099	C	A
Nervous feelings	rs10441755	C	T
Nervous feelings	rs3764002	T	C
Nervous feelings	rs61736074	A	C
Nervous feelings	rs11117275	G	C
Nervous feelings	rs35182	A	G
Nervous feelings	rs17884466	G	A
Nervous feelings	rs1569998	C	A
Nervous feelings	rs12479469	A	G

Nervous feelings	rs2205129	A	G
Sensitivity / hurt feelings	rs12710642	C	T
Sensitivity / hurt feelings	rs2221883	A	G
Sensitivity / hurt feelings	rs4868774	G	A
Sensitivity / hurt feelings	rs216139	A	G
Sensitivity / hurt feelings	rs9320507	A	G
Sensitivity / hurt feelings	rs62442214	G	A
Sensitivity / hurt feelings	rs7015350	G	A
Sensitivity / hurt feelings	rs1451149	A	T
Sensitivity / hurt feelings	rs1231380	T	C
Sensitivity / hurt feelings	rs113206181	G	T
Sensitivity / hurt feelings	rs7937277	G	C
Sensitivity / hurt feelings	rs36006259	T	C
Sensitivity / hurt feelings	rs12933611	G	T
Sensitivity / hurt feelings	rs59331110	A	G
Worrier / anxious feelings	rs6685497	A	T
Worrier / anxious feelings	rs236900	A	G
Worrier / anxious feelings	rs2745246	T	A

Worrier / anxious feelings	rs2344700	G	A
Worrier / anxious feelings	rs35957842	C	T
Worrier / anxious feelings	rs11735465	T	A
Worrier / anxious feelings	rs17405651	C	G
Worrier / anxious feelings	rs2309592	A	G
Worrier / anxious feelings	rs7669243	A	T
Worrier / anxious feelings	rs187580	G	T
Worrier / anxious feelings	rs922140	G	A
Worrier / anxious feelings	rs1833718	C	T
Worrier / anxious feelings	rs6463656	T	C
Worrier / anxious feelings	rs11971935	G	T
Worrier / anxious feelings	rs13257887	C	T
Worrier / anxious feelings	rs11787957	A	C
Worrier / anxious feelings	rs7043325	G	A
Worrier / anxious feelings	rs294379	A	T
Worrier / anxious feelings	rs12365385	C	T
Worrier / anxious feelings	rs10831412	A	T
Worrier / anxious feelings	rs1109344	A	G

Worrier / anxious feelings	rs9524410	G	A
Worrier / anxious feelings	rs7183547	C	T
Worrier / anxious feelings	rs77804065	T	C
Worrier / anxious feelings	rs116962250	A	G
Worrier / anxious feelings	rs6081247	T	A

Supplementary Table 3 MVMR analysis for feelings on Intelligence

Outcome	Method	Exposure	OR	95% CI	P-value	Heterogeneity test		Pleiotropy test			
						Statistic	P-value	Intercept	P-value		
Intelligence	IVW	Guilty feelings	1.52	0.60-3.88	0.378						
		Miserableness	0.73	0.30-1.82	0.503						
		Fed-up feelings	1.42	0.43-4.74	0.569						
		Nervous feelings	1.7	0.87-3.29	0.118	102.0603	<0.0001				
	MR-Egger	Loneliness, isolation	0.74	0.11-5.15	0.762						
		Sensitivity/hurt feelings	0.39	0.17-0.90	0.027						
MR-Egger	MR-Egger	Guilty feelings	0.74	0.22-2.45	0.624						
		Miserableness	0.86	0.35-2.10	0.741	91.8816	<0.0001	0.003	0.073		
		Fed-up feelings	0.94	0.27-3.27	0.924						

	Nervous feelings	1.45	0.75-2.81	0.266				
	Loneliness,isolation	0.82	0.13-5.33	0.834				
	Sensitivity/hurt feelings	0.39	0.18-0.86	0.02				
	Guilty feelings	1.67	0.64-4.33	0.292				
	Miserableness	0.55	0.22-1.42	0.218				
	Fed-up feelings	2.62	0.79-8.69	0.116				
Median	Nervous feelings	1.95	1.00-3.80	0.05	/	/	/	/
	Loneliness,isolation	0.32	0.05-1.92	0.211				
	Sensitivity/hurt feelings	0.44	0.20-0.95	0.037				