

## SUPPLEMENTARY MATERIAL FOR

### “Examining the Association of *NRXN3* SNPs with Borderline Personality Disorder Phenotypes in Heroin Dependent Cases and Socio-economically Disadvantaged Controls”

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**Supplementary Table 1.** The top ten associations by p value for screening positively for BPD and for BPD symptom count

SNP	Chr	SNP coordinates	Gene name	Minor Allele	Odds Ratio	P value
<b>screen</b>						
rs10083466	14	79054471	<i>NRXN3</i>	A	0.78	0.001
rs1660930	5	110685013	<i>CAMK4</i>	A	1.23	0.002
rs265983	5	174767723	<i>DRD1</i>	T	0.80	0.002
rs2296972	13	46326472	<i>HTR2A</i>	A	1.23	0.004
rs890317	15	24473294	<i>GABRB3</i>	A	0.83	0.005
rs8034824	15	25430569	<i>GABRG3</i>	C	0.57	0.005
rs1923886	13	46321292	<i>HTR2A</i>	G	1.20	0.006
rs2251065	17	69959295	<i>GPRC5C</i>	A	0.79	0.007
rs9938172	16	9909920	<i>GRIN2A</i>	A	1.19	0.01
rs531793	11	74703664	<i>ARRB1</i>	A	1.20	0.01
<b>sxtotal</b>					<b>betas</b>	
rs242942	17	41247413	<i>CRHR1</i>	A	-0.44	0.003
rs4492854	11	112488744	<i>NCAM1</i>	G	-0.24	0.005
rs17836262	14	79200816	<i>NRXN3</i>	C	-0.36	0.006
rs1407873	9	103434757	<i>GRIN3A</i>	G	-0.28	0.007
rs2303377	11	112616711	<i>NCAM1</i>	G	0.23	0.007
rs1660930	5	110685013	<i>CAMK4</i>	A	0.23	0.008
rs2056246	11	18008022	<i>TPH1</i>	A	-0.23	0.009
rs7023041	9	103382443	<i>GRIN3A</i>	A	0.26	0.009
rs4782080	16	9952201	<i>GRIN2A</i>	G	-0.26	0.009
rs17199066	9	103496514	<i>GRIN3A</i>	A	-0.30	0.01

**Supplementary Table 2.** The top ten associations by p value for angry and argue

SNP	Chr	SNP coordinates	Gene name	Minor Allele	Odds Ratio	P value
<b>angry</b>						
rs4389303	2	171427688	<i>GAD1</i>	A	0.66	0.0004
rs7191784	16	9771996	<i>GRIN2A</i>	A	1.36	0.0008
rs17117178	15	24418202	<i>GABRB3</i>	G	0.71	0.0009
rs2293537	6	154577136	<i>OPRM1</i>	G	1.34	0.001
rs300152	2	17850164	<i>MSGN1</i>	A	1.27	0.001
rs1043809	17	19180025	<i>EPN2</i>	G	1.27	0.001
rs6132153	20	1906145	<i>PDYN</i>	G	1.30	0.002
rs8030011	15	24369455	<i>GABRB3</i>	A	0.73	0.002
rs173365	17	41256855	<i>CRHR1</i>	A	0.81	0.002
rs10886189	10	119743953	<i>RAB11FIP2</i>	A	1.40	0.002
<b>argue</b>						
rs10748185	12	70622122	<i>TPH2</i>	A	0.81	0.001
rs7190175	16	9968296	<i>GRIN2A</i>	T	0.80	0.001
rs311122	X	2690157	<i>XG</i>	A	0.72	0.002
rs16141	7	24291284	<i>NPY</i>	C	0.82	0.002
rs4780746	16	9970587	<i>GRIN2A</i>	A	0.80	0.002
rs3903502	12	70692799	<i>TPH2</i>	A	1.23	0.002
rs7858998	9	103398856	<i>PPP3R2</i>	A	1.27	0.003
rs4565946	12	70623036	<i>TPH2</i>	A	0.82	0.003
rs10119861	9	103416037	<i>GRIN3A</i>	C	0.80	0.003
rs11946004	4	164492153	<i>NPY5R</i>	A	0.75	0.004

**Supplementary Table 3.** The top ten associations by p value for undecided, empty, and moody

SNP	Chr	SNP coordinates	Gene name	Minor Allele	Odds Ratio	P value
<b>undecided</b>						
rs10144398	14	78081097	<i>NRXN3</i>	A	0.75	0.000049
rs759939	14	80733206	<i>GTF2A1</i>	C	1.21	0.002
rs12809820	12	13744359	<i>GRIN2B</i>	G	1.37	0.003
rs4492854	11	112488744	<i>NCAM1</i>	G	0.84	0.008
rs3828275	2	171390986	<i>GAD1</i>	A	1.18	0.01
rs4774615	15	50320652	<i>MYO5C</i>	G	1.21	0.01
rs265983	5	174767723	<i>DRD1</i>	T	0.84	0.01
rs677642	11	112595390	<i>NCAM1</i>	C	0.85	0.02
rs1408830	1	191464030	<i>CDC73</i>	A	0.85	0.02
rs6132153	20	1906145	<i>PDYN</i>	G	1.22	0.02
<b>empty</b>						
rs11214601	11	112777972	<i>ANKK1</i>	A	1.34	0.002
rs12721510	8	67253736	<i>CRH</i>	A	0.63	0.002
rs1079597	11	112801496	<i>DRD2</i>	A	1.33	0.002
rs11683474	2	157381074	<i>GPD2</i>	T	1.34	0.004
rs3003322	1	24088161	<i>CNR2</i>	A	1.32	0.007
rs10772700	12	13735671	<i>GRIN2B</i>	G	1.19	0.01
rs242942	17	41247413	<i>CRHR1</i>	A	0.75	0.01
rs4648135	4	103755716	<i>NFKB1</i>	G	0.68	0.01
rs12809820	12	13744359	<i>GRIN2B</i>	G	1.33	0.01
rs10483917	14	78392399	<i>NRXN3</i>	A	0.55	0.01
<b>moody</b>						
rs10151731	14	78275372	<i>NRXN3</i>	C	1.42	0.000088
rs13156895	5	161243947	<i>GABRA1</i>	G	1.68	0.0008
rs4389303	2	171427688	<i>GAD1</i>	A	0.71	0.002
rs7839698	8	67256758	<i>CRH</i>	A	1.63	0.004
rs11602383	11	74706024	<i>ARRB1</i>	C	1.34	0.004
rs4492854	11	112488744	<i>NCAM1</i>	G	0.83	0.005
rs7031850	9	103521906	<i>GRIN3A</i>	A	1.52	0.008
rs12657908	5	110747388	<i>CAMK4</i>	G	0.84	0.01
rs690533	17	70361768	<i>GRIN2C</i>	G	1.21	0.01
rs9397697	6	154592545	<i>OPRM1</i>	A	1.22	0.01

**Supplementary Table 4.** The top ten associations by p value for extreme, intense, and threat

SNP	Chr	SNP coordinates	Gene name	Minor Allele	Odds Ratio	P value
<b>extreme</b>						
rs12677384	8	28228417	<i>PNOC</i>	G	1.22	0.007
rs1372472	4	46090955	<i>GABRA2</i>	A	0.81	0.008
rs6479643	9	135504489	<i>DBH</i>	G	1.21	0.01
rs526013	11	74670830	<i>ARRB1</i>	G	0.82	0.01
rs16909619	12	14021304	<i>GRIN2B</i>	A	0.64	0.01
rs2645715	8	28250407	<i>PNOC</i>	A	0.84	0.01
rs1455858	7	136282243	<i>CHRM2</i>	A	0.83	0.02
rs6989655	8	28242891	<i>PNOC</i>	A	0.83	0.02
rs1317286	15	76683184	<i>CHRNA3</i>	G	0.83	0.02
rs1037715	5	161248347	<i>GABRA1</i>	A	0.78	0.02
<b>intense</b>						
rs4782080	16	9952201	<i>GRIN2A</i>	G	0.74	0.0001
rs17569386	16	9954314	<i>GRIN2A</i>	A	0.75	0.0006
rs7127461	11	74710166	<i>ARRB1</i>	C	1.26	0.001
rs657561	11	74698027	<i>ARRB1</i>	A	1.26	0.001
rs527106	11	74732084	<i>ARRB1</i>	C	0.81	0.001
rs13156895	5	161243947	<i>GABRA1</i>	G	1.61	0.002
rs1800497	11	112776038	<i>ANKK1</i>	A	1.29	0.002
rs1079597	11	112801496	<i>DRD2</i>	A	1.30	0.003
rs11683474	2	157381074	<i>GPD2</i>	T	1.33	0.003
rs11214601	11	112777972	<i>ANKK1</i>	A	1.29	0.003
<b>threat</b>						
rs3025120	7	24292794	<i>NPY</i>	G	1.91	0.0001
rs685657	11	18017245	<i>TPH1</i>	A	0.80	0.0007
rs7201574	16	10010559	<i>GRIN2A</i>	G	0.74	0.001
rs2056246	11	18008022	<i>TPH1</i>	A	0.81	0.002
rs10832876	11	18016505	<i>TPH1</i>	G	1.26	0.003
rs6486403	11	18023757	<i>TPH1</i>	A	1.22	0.003
rs5925155	X	151208574	<i>GABRA3</i>	G	0.79	0.003
rs10483917	14	78392399	<i>NRXN3</i>	A	0.43	0.003
rs1806216	12	13625547	<i>GRIN2B</i>	G	0.67	0.005
rs13158707	5	160645384	<i>GABRB2</i>	A	1.33	0.006

**Supplementary Table 5.** The top ten associations by p value for stick and reckless

SNP	Chr	SNP coordinates	Gene name	Minor Allele	Odds Ratio	P value
<b>stick</b>						
rs7023041	9	103382443	<i>GRIN3A</i>	A	1.28	0.0009
rs4522263	12	13603742	<i>GRIN2B</i>	G	1.49	0.0009
rs7030238	9	103372316	<i>GRIN3A</i>	C	1.26	0.002
rs300152	2	17850164	<i>MSGN1</i>	A	1.25	0.002
rs4646981	11	112596015	<i>NCAM1</i>	A	0.73	0.003
rs5970309	X	151373571	<i>GABRA3</i>	C	1.62	0.003
rs759939	14	80733206	<i>GTF2A1</i>	C	1.20	0.004
rs17032108	3	3503016	<i>CRBN</i>	G	1.26	0.004
rs17836262	14	79200816	<i>NRXN3</i>	C	0.75	0.004
rs12887245	14	77901980	<i>NRXN3</i>	A	1.43	0.005
<b>reckless</b>						
rs211013	5	161512019	<i>GABRG2</i>	G	0.80	0.0008
rs2303377	11	112616711	<i>NCAM1</i>	G	1.25	0.001
rs2235751	20	1917934	<i>PDYN</i>	G	0.80	0.002
rs1654671	19	53616775	<i>GRIN2D</i>	A	0.82	0.003
rs2422106	5	161494381	<i>GABRG2</i>	C	0.81	0.004
rs686	5	174801306	<i>DRD1</i>	G	1.22	0.004
rs211037	5	161460858	<i>GABRG2</i>	A	0.81	0.004
rs17221034	X	151167197	<i>GABRA3</i>	G	2.06	0.005
rs17221020	X	151165682	<i>GABRA3</i>	A	2.03	0.006
rs1418035	20	1909775	<i>PDYN</i>	A	0.82	0.006