

# Supplementary Table 1

*The Self-Reported Stressful Life Events, Family Relations, Behavioural and Self-Reported Impulsivity Data Used in the Current Analyses, Split According to the Study Wave, DRD2 rs6277 Genotype, and Sex (Male/Female)*

	15y			18y			25y		
	TT	TC	CC	TT	TC	CC	TT	TC	CC
SLE									
<i>SLE Low</i>	33/41	58/62	27/32						
<i>SLE High</i>	26/30	46/53	31/39						
TFRS									
<i>Maltreat. Low</i>	29/39	55/54	23/39						
<i>Maltreat. High</i>	29/32	43/62	30/34						
<i>Warmth Low</i>	29/34	51/58	26/40						
<i>Warmth High</i>	27/48	46/56	29/33						
AMIS	57/71	103/114	58/73	48/73	99/114	52/64	44/66	90/110	53/64
VCT	49/58	74/93	43/61						
SST				43/62	85/103	48/57			
Alcohol use frequency	56/68	96/115	54/67	47/73	98/114	51/64	44/64	89/109	52/65
M.I.N.I. for AUD							46/61	86/109	55/64

*Notes.* All distributions are given as Male/Female. Stressful Life Events (SLE) and Tartu Family Relationship Scale (TFRS) measures are divided into low and high by median split. AUD=Alcohol Use Disorder; M.I.N.I.= the Mini-International Neuropsychiatric Interview; Maltreat.=Maltreatment; VCT= Visual Comparison Test, SST= stop-signal task.

Supplementary Table 2

*The Wald  $\chi^2$  Statistic and Significance Level from Generalised Estimating Equations Analyses, Investigating the Effect of DRD2 rs6277 Genotype, Stressful Life Events (SLE) and Sex Interactions on the Self-Reported Impulsivity Subscale and Composite Scale Scores*

<b>Impulsivity</b>	<b>DRD2</b>	<b>DRD2×Sex</b>	<b>DRD2×SLE</b>	<b>DRD2×SLE×Sex</b>
Excitement seeking	1.049	1.386	2.851	1.058
Fast decision-making	.515	.937	.417	4.431
<b>Adaptive impulsivity</b>	.061	.032	1.138	2.494
Disinhibition	.099	<b>7.067*</b>	4.405	1.304
Thoughtlessness	.125	4.155	<b>7.079*</b>	5.567 <sup>#</sup>
<b>Maladaptive impulsivity</b>	.157	5.918 <sup>#</sup>	5.537 <sup>#</sup>	3.915

*Notes.* Only the main effect and interactions involving DRD2 rs6277 genotype are shown here.

\* $p < .05$ , <sup>#</sup> $p < .10$

Supplementary table 3

*The Wald  $\chi^2$  Statistic and Significance Level from Generalised Estimating Equations Analyses, Investigating the Effect of DRD2 rs6277 Genotype, Family Relations, and Sex Interactions on the Self-Reported Impulsivity Subscales and Composite Scale Scores*

<b>Impulsivity</b>	<b>DRD2×MT</b>	<b>DRD2× MT×Sex</b>	<b>DRD2× Warmth</b>	<b>DRD2× Warmth× Sex</b>
Excitement Seeking	2.314	.556	2.008	.060
Fast Decision-making	2.353	.478	1.712	.002
<b>Adaptive Impulsivity</b>	.258	.569	1.844	.015
Disinhibition	<b>9.007*</b>	3.382	1.380	.938
Thoughtlessness	<b>6.317*</b>	.883	4.871 <sup>#</sup>	1.256
<b>Maladaptive Impulsivity</b>	<b>7.732*</b>	2.060	3.040	.390

*Notes.* Only the interactions involving DRD2 rs6277 genotype are shown here. The main effect of DRD2 genotype on impulsivity measures is shown in Supplementary Table 2.

MR=Maltreatment; \* $p < .05$ , <sup>#</sup> $p < .10$

Supplementary Table 4

*The F-Statistic and Significance Level from Three-Way ANOVAs, Investigating the Effect of DRD2 rs6277 Genotype, Stressful Life Events (SLE) and Sex Interactions on the Self-Reported Impulsivity Subscale and Composite Scale Scores*

<b>Impulsivity</b>	<b>Age</b>	<b>DRD2</b>	<b>DRD2×Sex</b>	<b>DRD2×SLE</b>	<b>DRD2×SLE×Sex</b>
Excitement seeking	15	.627	.188	.092	.213
	18	.419	2.424	.332	.730
	25	.195	.818	2.234	.850
Fast decision-making	15	.229	.332	.294	2.519
	18	.402	.911	.347	.823
	25	.281	.019	.328	1.477
<b>Adaptive impulsivity</b>	15	.072	.157	.016	1.203
	18	.094	.178	.003	1.015
	25	.040	.192	1.368	1.365
Disinhibition	15	.143	2.786	1.476	.256
	18	.189	<b>3.434*</b>	2.862	1.210
	25	.276	.966	2.398	.462
Thoughtlessness	15	.145	.932	<b>6.365**</b>	.809
	18	.008	2.664	.698	2.035
	25	.002	.518	.693	<b>3.317*</b>
<b>Maladaptive impulsivity</b>	15	.125	1.491	<b>4.760**</b>	.671
	18	.028	<b>3.778*</b>	1.674	2.021
	25	.066	.891	.991	1.857

*Notes.* Only the main effect and interactions involving DRD2 rs6277 genotype are shown here.

\*\*  $p < .01$ , \*  $p < .05$

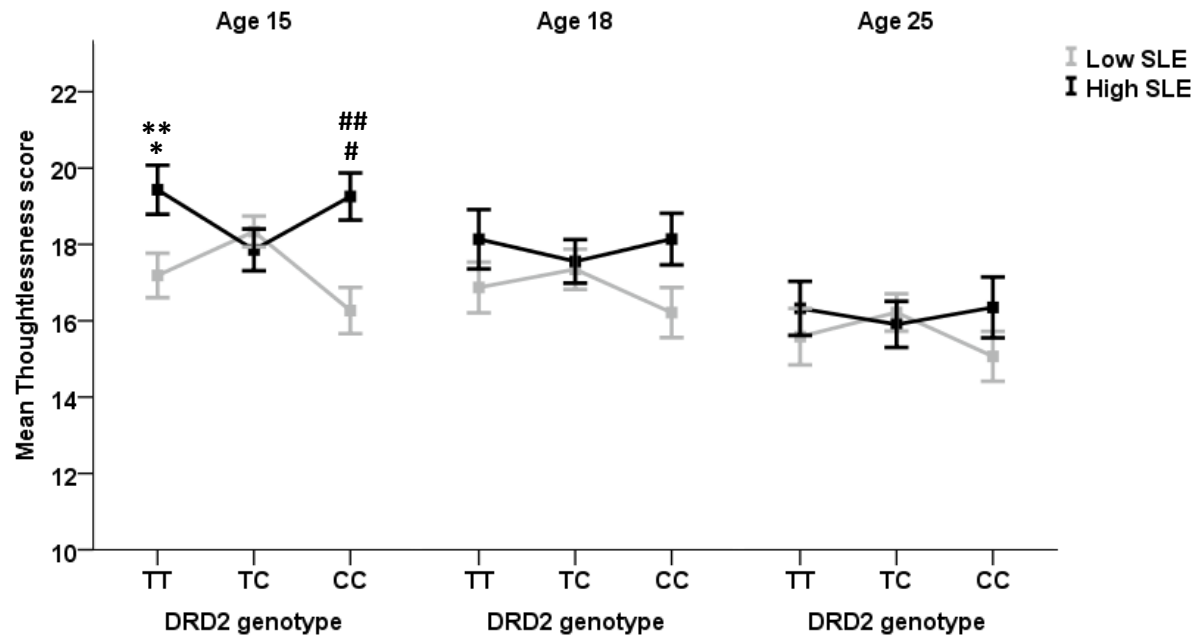
Supplementary Table 5

*The F-Statistic and Significance Level from Three-Way ANOVAs, Investigating the Effect of DRD2 rs6277 Genotype, Family Relations, and Sex Interactions on the Self-Reported Impulsivity Subscales and Composite Scale Scores*

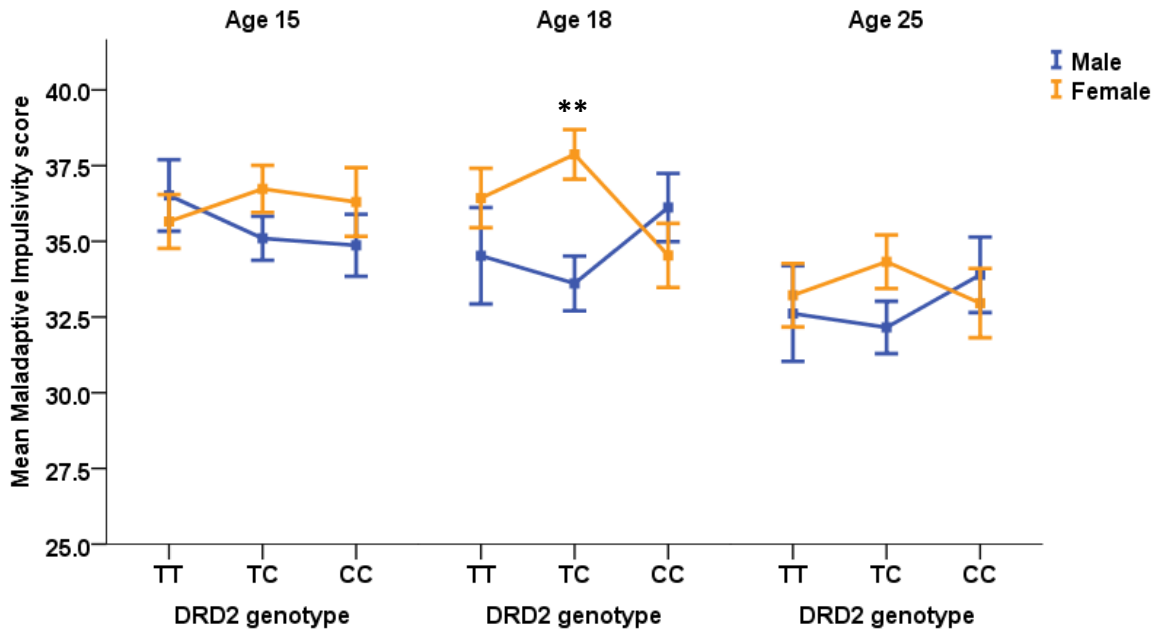
Impulsivity	Age	DRD2×MT	DRD2× MT×Sex	DRD2× Warmth	DRD2× Warmth× Sex
Excitement Seeking	15	.097	.156	.113	.182
	18	1.874	.220	1.388	.047
	25	<b>3.447*</b>	.240	2.128	.181
Fast Decision-making	15	.894	.426	.794	.006
	18	1.705	.830	.773	.440
	25	.218	.206	.202	.035
Adaptive Impulsivity	15	.469	.230	.486	.059
	18	1.157	.484	.980	.143
	25	.635	.292	1.204	.019
Disinhibition	15	2.596	.999	.862	.810
	18	2.525	2.044	.601	.412
	25	2.286	.753	1.437	.264
Thoughtlessness	15	<b>3.941*</b>	.252	1.811	.230
	18	2.085	.678	.651	.331
	25	.723	.151	<b>3.491*</b>	1.634
Maladaptive Impulsivity	15	<b>3.902*</b>	.658	1.729	.038
	18	2.162	1.498	.131	.195
	25	1.423	.462	2.603	1.080

*Notes.* Only the interactions involving DRD2 rs6277 genotype are shown here. The main effect of DRD2 genotype on impulsivity measures is shown in Supplementary Table 4.

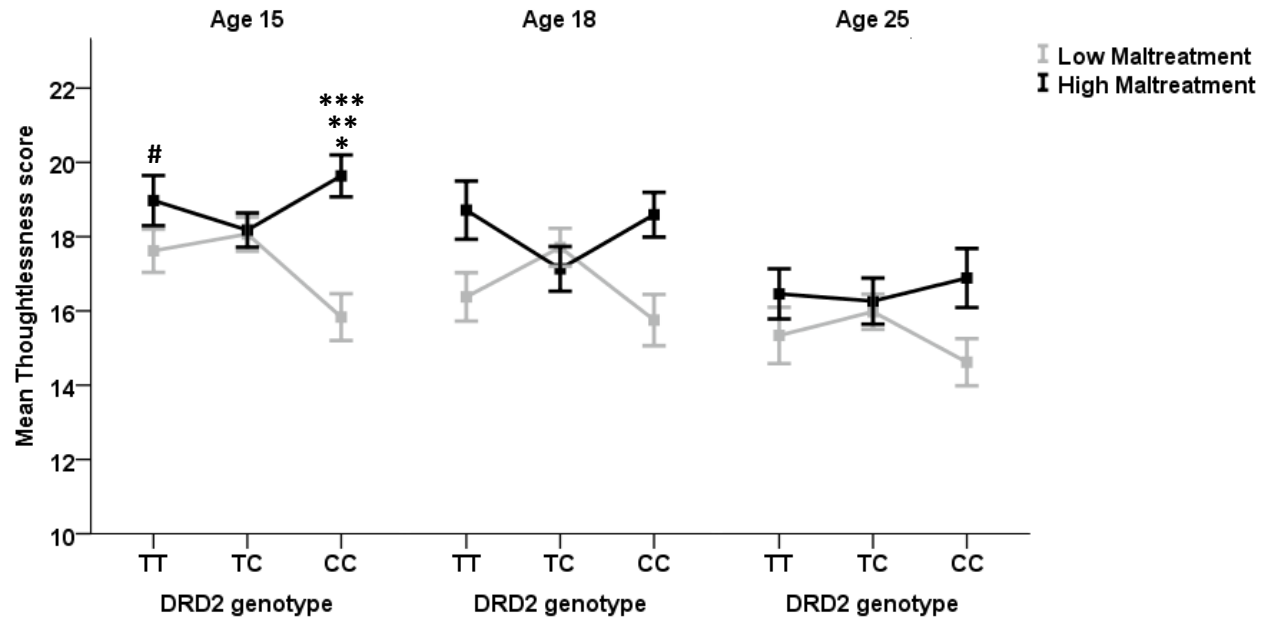
MT=Maltreatment; \*\*  $p < .01$ , \*  $p < .05$



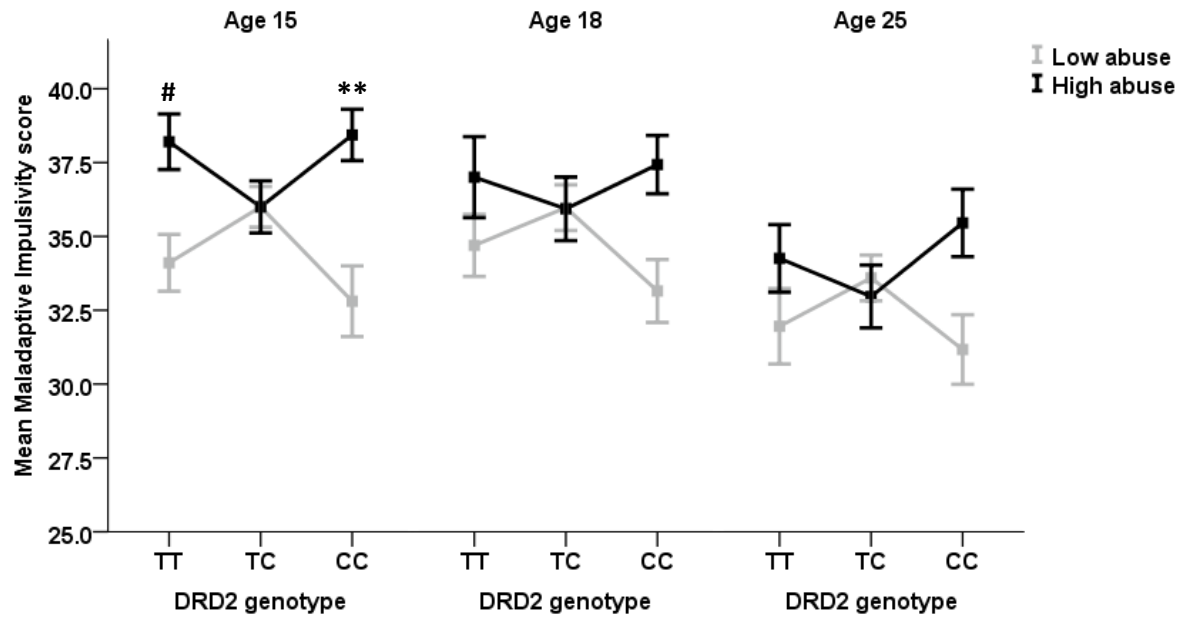
Supplementary figure 1. Mean Thoughtlessness score across three study waves, split according to *DRD2* genotype and the median split of Stressful Life Events (SLE). \*\*  $p < .01$ , TT/High SLE vs TT/Low SLE and CC/Low SLE; \*  $p < .05$ , TT/High SLE vs TC/High SLE; ##  $p < .01$ , CC/High SLE vs CC/Low SLE and TT/Low SLE, #  $p < .05$ , CC/High SLE vs TC/High SLE. Error bars show +/- 1 standard errors of the mean.



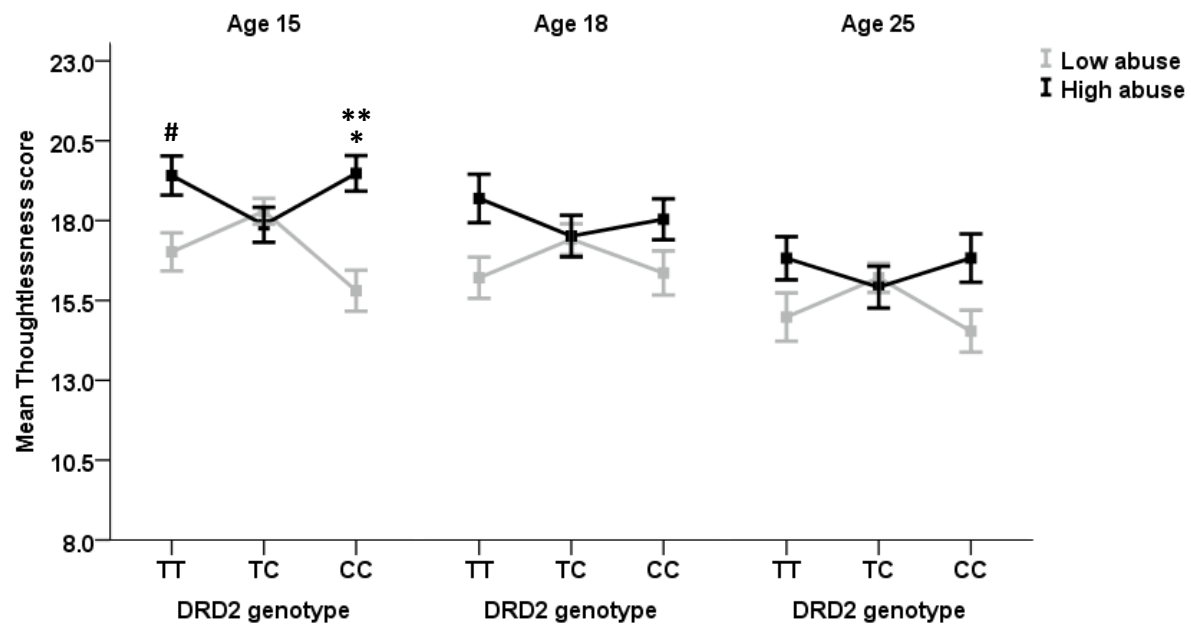
Supplementary figure 2. Mean Maladaptive Impulsivity scores across three study waves, split by *DRD2* genotype and sex. \*\*  $p < .01$  TC/Female vs TC/Male. Error bars show  $\pm 1$  standard errors of the mean.



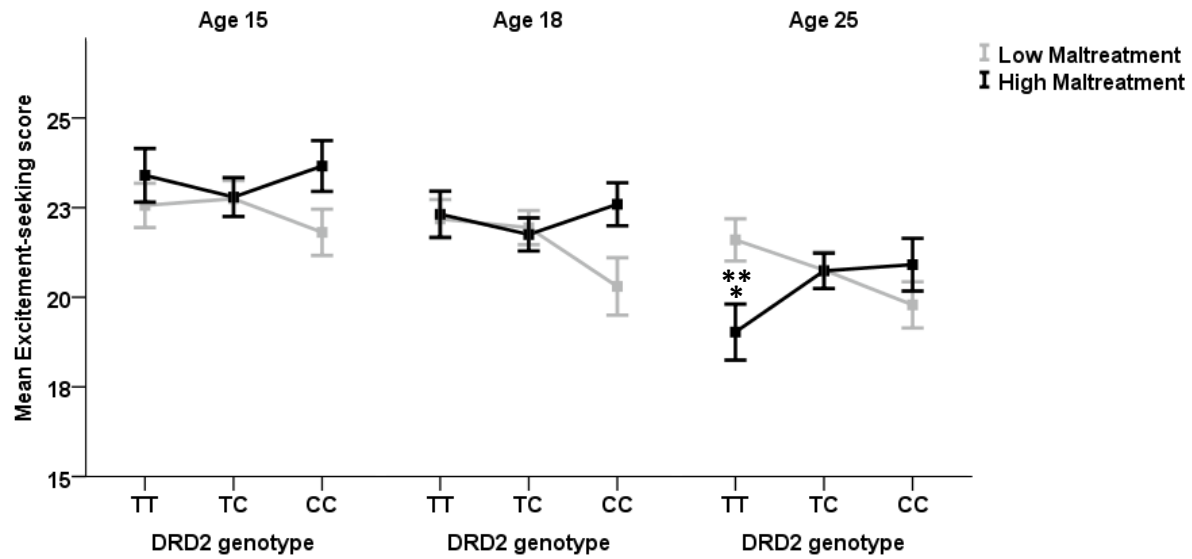
Supplementary figure 3. Mean Thoughtlessness scores across three study waves, split according to *DRD2* genotype and the median split of Maltreatment. \*\*\*  $p < .001$ , CC/High Maltreatment vs CC/Low Maltreatment; \*\*  $p < .01$ , CC/High Maltreatment vs TT/Low Maltreatment and TC/High Maltreatment; \*  $p < .05$ , CC/High Maltreatment vs TC/Low Maltreatment; #  $p < .05$ , TT/High Maltreatment vs CC/Low Maltreatment. Error bars show  $\pm 1$  standard errors of the mean.



Supplementary figure 4. Mean Maladaptive Impulsivity scores across three study waves, split according to *DRD2* genotype and the median split of Abuse. \*\*\*  $p < .001$ , CC/High Abuse vs TT/Low Abuse and CC/Low Abuse; \*\*  $p < .01$ , CC/High Abuse vs TC/High Abuse and TC/Low Abuse; #  $p < .05$ , TT/High Abuse vs TT/Low Abuse and CC/Low Abuse. Error bars show  $\pm 1$  standard errors of the mean.



Supplementary figure 5. Mean Thoughtlessness scores across three study waves, split according to *DRD2* genotype and the median split of Abuse. \*\*  $p < .01$ , CC/High Abuse vs CC/Low Abuse and TT/Low Abuse; \*  $p < .05$ , CC/High Abuse vs TC/High Abuse and TC/Low Abuse; #  $p < .05$ , TT/High Abuse vs TT/Low Abuse. Error bars show +/- 1 standard errors of the mean.



Supplementary figure 6. Mean Excitement-seeking scores across three study waves, split according to *DRD2* genotype and the median split of Maltreatment. \*\*  $p < .01$ , TT/High Maltreatment vs TT/Low Maltreatment; \*  $p < .05$ , TT/High Maltreatment vs CC/High Maltreatment and TC/Low Maltreatment. Error bars show  $\pm 1$  standard errors of the mean.

Supplementary Table 6. *The effect of DRD2 rs6277 Genotype on Personality Traits in the Combined Sample and in Males (M) and Females (F) Separately, Using Analysis of Variance.*

Mean±Standard Deviation raw p values Analysis of Variance	DRD2 rs6277		
	Younger birth cohort		
	M+F	M	F
Neuroticism1998(reported by parents)	p=0.561	p=0.784	p=0.323
Extraversion1998(reported by parents)	p=0.44	p=0.962	p=0.16
Openness1998(reported by parents)	p=0.474	p=0.986	p=0.257
Agreeableness1998(reported by parents)	p=0.311	F(2, 250)=2.6, p=0.079 TT: 27.54±4.27, n=68 CT: 27.09±3.96, n=123 CC: 28.53±4.14, n=62	p=0.871
Conscientiousness1998(reported by parents)	p=0.219	p=0.225	p=0.213
Neuroticism1998(reported by teachers)	p=0.128	p=0.975	<b>F(2, 260)=3.7, p=0.027</b> TT: 19.14±5.23, n=73 CT: 21.46±6.12, n=118 CC: 20.36±5.78, n=72
Extraversion1998(reported by teachers)	p=0.734	p=0.527	p=0.187
Openness1998(reported by teachers)	p=0.898	p=0.946	p=0.622
Agreeableness1998(reported by teachers)	<b>F(2, 492)=3.4, p=0.034</b> TT: 30.31±5.44, n=130 CT: 28.57±6.23, n=235 CC: 29.32±6.56, n=130	p=0.624	<b>F(2, 260)=4.8, p=0.009</b> TT: 31.82±4.31, n=73 CT: 29.14±6.32, n=118 CC: 29.63±6.67, n=72
Conscientiousness1998(reported by teachers)	p=0.258	p=0.699	<b>F(2, 260)=3.2, p=0.041</b> TT: 30.62±6.56, n=73 CT: 28.01±7.65, n=118 CC: 29.72±7.02, n=72

Supplementary Table 6 continued

Mean±Standard Deviation raw p values Analysis of Variance	DRD2 rs6277		
	Younger birth cohort		
	M+F	M	F
Neuroticism 2004 (reported by parents)	p=0.721	p=0.752	p=0.9
Extraversion 2004 (reported by parents)	p=0.313	p=0.262	p=0.633
Openness 2004 (reported by parents)	p=0.65	<b>F(2, 194)=5.0, p=0.008</b> TT: 26.27±3.45, n=56 CT: 27.36±3.85, n=90 CC: 25.26±4.28, n=51	p=0.288
Agreeableness 2004 (reported by parents)	p=0.527		p=0.337
Conscientiousness 2004 (reported by parents)	p=0.983		p=0.482
Neuroticism 2004	p=0.71		p=0.387
Extraversion 2004	p=0.384		p=0.885
Openness 2004	p=0.701	p=0.888	p=0.506
Agreeableness 2004	p=0.654	p=0.395	p=0.93
Conscientiousness 2004	p=0.511	p=0.243	p=0.125
Neuroticism 2007	p=0.228	p=0.218	p=0.129
Extraversion 2007	p=0.866	p=0.531	p=0.981
Openness 2007	p=0.866	p=0.321	p=0.89
Agreeableness 2007	F(2, 446)=2.7, p=0.068 TT: 4.59±8.83, n=121 CT: 6.59±7.77, n=212 CC: 6.73±8.76, n=116	F(2, 195)=2.5, p=0.082 TT: 2.21±7.87, n=48 CT: 5.34±7.51, n=98 CC: 4.4±8.67, n=52	p=0.216
Conscientiousness 2007	p=0.724	p=0.118	<b>F(2, 248)=3.1, p=0.048</b> TT: 9.07±10.57, n=73 CT: 6.93±10.58, n=114 CC: 10.86±9.62, n=64
Neuroticism 2014	p=0.995	p=0.589	p=0.658
Extraversion 2014	p=0.792	p=0.724	p=0.221
Openness 2014	p=0.098	p=0.247	p=0.324
Agreeableness 2014	p=0.801	p=0.494	p=0.586
Conscientiousness 2014	p=0.715	p=0.575	p=0.488

Supplementary Table 7a. *Correlations Between Self-Reported Maladaptive Impulsivity Scores and Behavioural Impulsivity Measures.*

		Correlations							
		Maladaptive Impulsivity, 15	Maladaptive Impulsivity, 18	Maladaptive Impulsivity, 25	VCT I- Score	SST Commission Errors	SST Omission Errors	SST SSRT	SST Reaction Time
Maladaptive Impulsivity, 15	Pearson Correlation	1	.509**	.352**	.044	.075	.083	-.030	-.052
	Sig. (2-tailed)		.000	.000	.393	.165	.123	.594	.328
	N	477	396	379	375	349	349	319	349
Maladaptive Impulsivity, 18	Pearson Correlation	.509**	1	.573**	-.004	.051	.135**	-.035	-.050
	Sig. (2-tailed)	.000		.000	.950	.315	.007	.512	.324
	N	396	450	363	317	397	397	363	397
Maladaptive Impulsivity, 25	Pearson Correlation	.352**	.573**	1	.008	.012	.081	-.019	.021
	Sig. (2-tailed)	.000	.000		.890	.834	.149	.740	.707
	N	379	363	427	296	320	320	294	320
VCT I-Score	Pearson Correlation	.044	-.004	.008	1	-.054	.080	-.046	.068
	Sig. (2-tailed)	.393	.950	.890		.368	.185	.466	.258
	N	375	317	296	378	278	278	256	278
SST Commission Errors	Pearson Correlation	.075	.051	.012	-.054	1	-.121*	-.487**	-.851**
	Sig. (2-tailed)	.165	.315	.834	.368		.015	.000	.000
	N	349	397	320	278	398	398	363	398
SST Omission Errors	Pearson Correlation	.083	.135**	.081	.080	-.121*	1	-.017	-.053
	Sig. (2-tailed)	.123	.007	.149	.185	.015		.742	.295
	N	349	397	320	278	398	398	363	398
SST SSRT	Pearson Correlation	-.030	-.035	-.019	-.046	-.487**	-.017	1	.457**
	Sig. (2-tailed)	.594	.512	.740	.466	.000	.742		.000
	N	319	363	294	256	363	363	363	363
SST Reaction Time	Pearson Correlation	-.052	-.050	.021	.068	-.851**	-.053	.457**	1
	Sig. (2-tailed)	.328	.324	.707	.258	.000	.295	.000	
	N	349	397	320	278	398	398	363	398

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

Supplementary Table 7b. *Correlations Between Self-Reported Adaptive Impulsivity Scores and Behavioural Impulsivity Measures.*

		Correlations							
		Adaptive Impulsivity, 15	Adaptive Impulsivity, 18	Adaptive Impulsivity, 25	VCT I- Score	SST Commission Errors	SST Omission Errors	SST SSRT	SST Reaction Time
Adaptive Impulsivity, 15	Pearson Correlation	1	.568**	.544**	.007	-.041	-.002	.010	.018
	Sig. (2-tailed)		.000	.000	.896	.446	.964	.852	.737
	N	479	397	378	377	350	350	320	350
Adaptive Impulsivity, 18	Pearson Correlation	.568**	1	.637**	-.003	.018	-.074	-.043	-.057
	Sig. (2-tailed)	.000		.000	.963	.723	.141	.413	.260
	N	397	450	363	317	397	397	363	397
Adaptive Impulsivity, 25	Pearson Correlation	.544**	.637**	1	.019	-.007	-.018	-.025	-.013
	Sig. (2-tailed)	.000	.000		.739	.907	.749	.670	.820
	N	378	363	427	296	320	320	294	320
VCT I-Score	Pearson Correlation	.007	-.003	.019	1	-.054	.080	-.046	.068
	Sig. (2-tailed)	.896	.963	.739		.368	.185	.466	.258
	N	377	317	296	378	278	278	256	278
SST Commission Errors	Pearson Correlation	-.041	.018	-.007	-.054	1	-.121*	-.487**	-.851**
	Sig. (2-tailed)	.446	.723	.907	.368		.015	.000	.000
	N	350	397	320	278	398	398	363	398
SST Omission Errors	Pearson Correlation	-.002	-.074	-.018	.080	-.121*	1	-.017	-.053
	Sig. (2-tailed)	.964	.141	.749	.185	.015		.742	.295
	N	350	397	320	278	398	398	363	398
SST SSRT	Pearson Correlation	.010	-.043	-.025	-.046	-.487**	-.017	1	.457**
	Sig. (2-tailed)	.852	.413	.670	.466	.000	.742		.000
	N	320	363	294	256	363	363	363	363
SST Reaction Time	Pearson Correlation	.018	-.057	-.013	.068	-.851**	-.053	.457**	1
	Sig. (2-tailed)	.737	.260	.820	.258	.000	.295	.000	
	N	350	397	320	278	398	398	363	398

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

