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SUPPLEMENTARY MATERIALS

Other models that were analyzed

We analyzed the same model in an older and less age-heterogeneous sample (T2:14-20, T3: 15-21, N=131) due to concerns that the original age range was too wide and power to detect age moderation was too small. Findings were largely the same as the final model except higher levels of the 5-HT polygenic score marginally significantly predicted greater positive urgency, and greater positive urgency significantly predicted *fewer* alcohol problems. These analyses showed that a less heterogeneous age range resulted in a substantially reduced sample size, which decreased the chances that coefficients accurately reflected population values. For this reason, they were not reported in the main results. Despite the differences rendered by reducing the sample size, analyses also demonstrated that the main results were still quite robust to this change (negative urgency mediation effect), which served to further increase our confidence in this particular finding.

We also estimated the same models but with a drinking frequency outcome (i.e., in the past year, how often did you drink alcohol) and binge drinking outcome (i.e., frequency of drinking five or more drinks in the past year). It was possible that alcohol frequency variables would be more developmentally appropriate than an alcohol problems variable given that some participants were quite young. For the drinking frequency outcome, results were the same except negative urgency was the only impulsivity facet that uniquely predicted drinking frequency. Note that zero-order correlations showed that positive urgency, sensation seeking, and negative urgency were significantly correlated with this drinking frequency variable in the expected directions, which is more consistent with

the literature (Coskupinar et al., 2013). Thus, using the alcohol problems variable compared to this drinking frequency variable did not appear to obscure impulsivity-drinking effects.

For the binge drinking variable, the results were largely the same except that negative urgency no longer predicted binge drinking, higher levels of positive urgency now significantly predicted *less* binge drinking, and sensation seeking now significantly predicted greater binge drinking. Thus, using the alcohol problems variable compared to this binge drinking variable did not appear to obscure impulsivity-drinking effects. These findings are somewhat consistent with a prior study that showed that sensation seeking was the strongest predictor of binge drinking when compared to all other impulsivity facets (Coskunpinar et al., 2013). Note that in zero-order correlations, negative urgency, lack of premeditation, and sensation seeking were significantly correlated with binge drinking in the expected direction, and that positive urgency was positively, but not significantly, correlated with binge drinking.

Thus, because it did not appear that the drinking frequency variables better reflected developmental patterns pertaining to impulsivity-drinking effects, and because the alcohol problems variable was intentionally and originally chosen due to its clinical significance and well-established relation with 5-HT functioning and negative urgency, we did not present drinking frequency models in the final results.

Supplementary Table 1

Single Nucleotide Polymorphisms Included in the 5-HT Polygenic Score

SNP	Gene	*p*-value[a]
rs4863731	MAML3	0.001815
rs1544623	NRXN3	0.003153
rs9847748	FAM19A4	0.003487
rs5753625	EIF4ENIF1	0.01117
rs7219247	GRIN2C	0.01206
rs6494212	CHRNA7	0.01219
rs2823662	MIR99AHG	0.01595
rs4953262	PRKCE	0.01805
rs135757	CSNK1E	0.0192
rs636842	AVEN	0.0192
rs2611605	CHRNA7	0.01929
rs1554929	DRD2	0.02101
rs1799971	OPRM1	0.0225
rs760288	NRXN3	0.02268
rs2236256	IPFCEF1	0.02273
rs363338	SLC18A2	0.02499
rs2272381	OPRM1	0.02965
rs1931059	DLGAP3	0.03011
rs782444	MGLL	0.03569
rs1869237	NRP1	0.03846
rs5970223	GABRA3	0.04155
rs5905512	MAOB	0.04555
rs4782262	GRIN2A	0.04626
rs1861957	NRXN3	0.04736
rs1426223	GABRB3	0.04805

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| rs1151523 | FOSL1 | 0.04948 |

Note. [a]The *p*-value of each SNP in the discovery GWAS (i.e., Luykx et al., 2014).

Supplementary Table 2

Effect Sizes for the Main Predictors

	Mediators					Outcome
	Lack of Premeditation	Negative Urgency	Sensation Seeking	Lack of Perseverance	Positive Urgency	T3 Alcohol Problems
Predictors	f^2	f^2	f^2	f^2	f^2	IRR
5-HT Polygenic Score	0.003	0.032	0.00	0.002	0.006	1.15
Lack of Premeditation	--	--	--	--	--	2.20
Negative Urgency	--	--	--	--	--	4.00
Sensation Seeking	--	--	--	--	--	2.14
Lack of Perseverance	--	--	--	--	--	0.68
Positive Urgency	--	--	--	--	--	0.52

Note. IRR: Incidence rate ratio.