

Table S1 Contingency table ADHD-I and problem drinking in twin 1 with percentages of problem drinking (yes/no) between brackets

			problem drinking	
			0	1
Males	ADHD-I	0	150 (97.4)	4 (2.6)
		1	260 (87.8)	36 (12.2)
		2	209 (86.4)	33 (13.6)
		3	164 (79.6)	42 (20.4)
Females	ADHD-I	0	352 (98.1)	7 (1.9)
		1	529 (94.3)	32 (5.7)
		2	549 (93.8)	36 (6.2)
		3	452 (86.1)	73 (13.9)

Table S2 Contingency table Inattentive problems and problem drinking in twin 1 with percentages of problem drinking (yes/no) between brackets

			problem drinking	
			0	1
Males	Inattentive	0	208 (93.3)	15 (6.7)
		1	166 (87.4)	24 (12.6)
		2	247 (87.0)	37 (13.0)
		3	162 (80.6)	39 (19.4)
Females	Inattentive	0	500 (96.2)	20 (3.8)
		1	419 (95.7)	19 (4.3)
		2	591 (93.1)	44 (6.9)
		3	372 (85.1)	65 (14.9)

Table S3 Contingency table Hyperactivity and problem drinking in twin 1 with percentages of problem drinking (yes/no) between brackets

			problem drinking	
			0	1
Males	Hyperactive	0	238 (90.5)	25 (9.5)
		1	198 (85.7)	33 (14.3)
		2	174 (90.2)	19 (9.8)
		3	173 (82.0)	38 (18.0)
Females	Hyperactive	0	565 (97.4)	15 (2.6)
		1	468 (91.9)	41 (8.1)
		2	402 (93.3)	29 (6.7)
		3	447 (87.6)	63 (12.4)

Table S4 Parameter estimates of the ACE model with quantitative sex differences

		Phenotypic covariance	Additive genetic contribution (A) (%)	Shared Environmental contribution (C) (%)	Unique environmental contribution (E) (%)	Genetic correlation	Shared environme ntal correlation	Unique environmental correlation
ADHD-I	Males	NA	0.30	0.01	0.69	NA	NA	NA
	Females	NA	0.36	0.04	0.61	NA	NA	NA
Hyperactive	Males	NA	0.30	0.04	0.66	NA	NA	NA
	Females	NA	0.21	0.11	0.68	NA	NA	NA
Inattentive	Males	NA	0.34	0.00	0.66	NA	NA	NA
	Females	NA	0.35	0.07	0.58	NA	NA	NA
Problem Drinking (PD)	Males	NA	0.34	0.16	0.51	NA	NA	NA
	Females	NA	0.22	0.28	0.51	NA	NA	NA
Covariance ADHD-I- PD	Males	0.25	0.21	0.00	0.04	0.65	0.06	0.07
	Females	0.32	0.28	-0.06	0.11	0.99	-0.63	0.19
Covariance	Males	0.14	0.14	-0.03	0.03	0.42	-0.42	0.05

