

SUPPLEMENTARY TABLES for the paper:

Adolescent Self-Report of Emotional and Behavioral
Problems;
Interactions of Genetic Factors with Sex and Age

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Supplementary table 1.

Univariate model fitting results for the syndrome and broadband scales.

Anxious/Depressed						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	35795.168	6470	--	--	--
2. r_g DOS = 0.5	1	35795.237	6471	.068	1	.794
3. $\beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	2	35796.351	6474	.114	3	.735
4. $\beta_{a, boys} = \beta_{a, girls} = 0, \beta_{c, boys} = \beta_{c, girls} = 0, \beta_{e, boys} = \beta_{e, girls} = 0$	3	35810.066	6477	13.72	3	.00
5. $a_{boys} = a_{girls}, c_{boys} = c_{girls}, e_{boys} = e_{girls}$	3	36049.929	6477	253.58	3	.00
6. $c_{boys} = 0$	3	35797.634	6475	1.283	1	.257
7. $c_{girls} = 0$	3	35799.625	6475	3.274	1	.070
8. Best model: $AE_{males}, AE_{females} + \beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	1	35799.625	6476	4.457	6	.615

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; r_g DOS = genetic correlation between DOS twins.

Withdrawn/Depressed						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	27828.838	6509	--	--	--
2. r_g DOS = 0.5	1	27829.473	6510	.636	1	.425
3. $\beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	2	27833.159	6513	3.686	3	.297
4. $\beta_{a, boys} = \beta_{a, girls} = 0, \beta_{c, boys} = \beta_{c, girls} = 0, \beta_{e, boys} = \beta_{e, girls} = 0$	3	27862.572	6516	29.413	3	.00
5. $a_{boys} = a_{girls}, c_{boys} = c_{girls}, e_{boys} = e_{girls}$	3	27886.627	6516	53.468	3	.00
6. $c_{boys} = 0$	3	27833.849	6514	.690	1	.41
7. $c_{girls} = 0$	3	27836.217	6514	3.058	1	.08
8. Best model: $AE_{males}, AE_{females} + \beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	1	27836.224	6515	7.386	6	.287

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; rg DOS = genetic correlation between DOS twins.

Somatic Complaints						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	28039.084	6356	--	--	--
2. r_g DOS = 0.5	1	28039.088	6357	.004	1	.95
3. $\beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	2	28047.210	6360	8.122	3	.04
4. $\beta_{a, boys} = \beta_{a, girls} = 0, \beta_{c, boys} = \beta_{c, girls} = 0, \beta_{e, boys} = \beta_{e, girls} = 0$	2	28075.268	6360	36.181	3	.00
4b. $\beta_{a, girls} = 0, \beta_{c, girls} = 0, \beta_{e, girls} = 0$	2	28041.178	6360	2.091	3	.554
5. $a_{boys} = a_{girls}, c_{boys} = c_{girls}, e_{boys} = e_{girls}$	4b	28289.267	6363	248.09	3	.00
6. $c_{boys} = 0$	4b	28041.202	6361	.024	1	.877
7. $c_{girls} = 0$	4b	28041.902	6361	.724	1	.394
8. Best model: $AE_{males}, AE_{females} + \beta_{a, boys} \beta_{c, boys}, \beta_{e, boys}$	1	28044.695	6362	5.611	6	.468

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; rg DOS = genetic correlation between DOS twins.

Social Problems						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	26004.251	6496	--	--	--
2. r_g DOS = 0.5	1	26005.132	6497	.881	1	.348
3. $\beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	2	26005.288	6500	.156	1	.69
4. $\beta_{a, boys} = \beta_{a, girls} = 0, \beta_{c, boys} = \beta_{c, girls} = 0, \beta_{e, boys} = \beta_{e, girls} = 0$	3	26029.174	6503	23.886	3	.00
5. $a_{boys} = a_{girls}, c_{boys} = c_{girls}, e_{boys} = e_{girls}$	3	26006.566	6503	1.278	3	.734
6. $c_{boys} = c_{girls} = 0$	5	26006.604	6504	.038	1	.845
7. Best model: $AE_{males \& females} + \beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	1	26005.740	6503	1.486	7	.983

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; rg DOS = genetic correlation between DOS twins.

Thought Problems						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	24925.155	6501	--	--	--
2. r_g DOS = 0.5	1	24925.305	6502	.149	1	.699
3. $\beta_{a, boys} = \beta_{a, girls}$, $\beta_{c, boys} = \beta_{c, girls}$, $\beta_{e, boys} = \beta_{e, girls}$	2	24932.257	6505	6.952	3	.073
4. $\beta_{a, boys} = \beta_{a, girls} = 0$, $\beta_{c, boys} = \beta_{c, girls} = 0$, $\beta_{e, boys} = \beta_{e, girls} = 0$	3	24938.693	6508	6.436	3	.092
5. $a_{boys} = a_{girls}$, $c_{boys} = c_{girls}$, $e_{boys} = e_{girls}$	4	24953.974	6511	15.281	3	.001
6. $c_{boys} = 0$	4	24939.071	6509	.378	1	.539
7. $c_{girls} = 0$	4	24939.087	6509	.394	1	.530
8. Best model: AE_{males} , $AE_{females}$	1	24939.089	6510	13.93	9	.125

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p -value; r_g DOS = genetic correlation between DOS twins.

Attention Problems							
Model	vs	-2LL	df	χ^2	Δ df	p	
1. ACE model	--	31256.185	6485	--	--	--	
2. r_g DOS = 0.5	1	31256.657	6486	.472	1	.492	
3. $\beta_{a, boys} = \beta_{a, girls}$, $\beta_{c, boys} = \beta_{c, girls}$, $\beta_{e, boys} = \beta_{e, girls}$	2	31257.705	6489	1.048	3	.789	
4. $\beta_{a, boys} = \beta_{a, girls} = 0$, $\beta_{c, boys} = \beta_{c, girls} = 0$, $\beta_{e, boys} = \beta_{e, girls} = 0$	3	31258.469	6492	.764	3	.858	
5. $a_{boys} = a_{girls}$, $c_{boys} = c_{girls}$, $e_{boys} = e_{girls}$	4	31274.652	6495	16.183	3	.00	
6. $c_{boys} = 0$	4	31258.471	6493	.002	1	.964	
7. $c_{girls} = 0$	4	31270.416	6493	11.945	1	.00	
8. Best model: AE_{males} , $ACE_{females}$	1	31258.471	6493	2.286	8	.971	

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; r_g DOS = genetic correlation between DOS twins.

Rule-Breaking Behavior						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	26743.940	6525	--	--	--
2. r_g DOS = 0.5	1	26743.940	6526	.00	1	.999
3. $\beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	2	26749.289	6529	5.349	3	.148
4. $\beta_{a, boys} = \beta_{a, girls} = 0, \beta_{c, boys} = \beta_{c, girls} = 0, \beta_{e, boys} = \beta_{e, girls} = 0$	3	26749.647	6532	.350	3	.950
5. $a_{boys} = a_{girls}, c_{boys} = c_{girls}, e_{boys} = e_{girls}$	4	26773.413	6535	23.77	3	.000
6. $c_{boys} = 0$	4	26750.525	6533	.878	1	.349
7. $c_{girls} = 0$	4	26756.752	6533	7.105	1	.007
8. Best model: $AE_{males}, ACE_{females}$	1	26750.525	6533	6.585	8	.582

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; r_g DOS = genetic correlation between DOS twins.

Aggressive Behavior						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	36771.027	6497	--	--	--
2. r_g DOS = 0.5	1	36771.164	6498	.138	1	.710
3. $\beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	2	36776.564	6501	5.40	3	.144
4. $\beta_{a, boys} = \beta_{a, girls} = 0, \beta_{c, boys} = \beta_{c, girls} = 0, \beta_{e, boys} = \beta_{e, girls} = 0$	3	36810.462	6504	33.89	3	.00
5. $a_{boys} = a_{girls}, c_{boys} = c_{girls}, e_{boys} = e_{girls}$	3	36812.735	6504	36317	3	.00
6. $c_{boys} = 0$	3	36776.860	6502	.296	1	.413
7. $c_{girls} = 0$	3	36779.253	6502	2.689	1	.101
8. Best model: $AE_{males}, AE_{females} + \beta_{a, boys} = \beta_{a, girls}, \beta_{c, boys} = \beta_{c, girls}, \beta_{e, boys} = \beta_{e, girls}$	1	36780.120	6503	9.093	6	.168

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p-value; rg DOS = genetic correlation between DOS twins.

Internalizing						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	41357.385	6300	--	--	--
2. r_g DOS = 0.5	1	41357.402	6301	.018	1	.894
3. $\beta_{a, boys} = \beta_{a, girls}$, $\beta_{c, boys} = \beta_{c, girls}$, $\beta_{e, boys} = \beta_{e, girls}$	2	41358.070	6304	.668	3	.881
4. $\beta_{a, boys} = \beta_{a, girls} = 0$, $\beta_{c, boys} = \beta_{c, girls} = 0$, $\beta_{e, boys} = \beta_{e, girls} = 0$	3	41366.144	6307	8.074	3	.044
5. $a_{boys} = a_{girls}$, $c_{boys} = c_{girls}$, $e_{boys} = e_{girls}$	3	41590.113	6307	232.04	3	.00
6. $c_{boys} = 0$	3	41359.900	6305	1.83	1	.176
7. $c_{girls} = 0$	3	41363.303	6305	5.233	1	.00
8. Best model: AE_{males} , $ACE_{females}$ + $\beta_{a, boys} = \beta_{a, girls}$, $\beta_{c, boys} = \beta_{c, girls}$, $\beta_{e, boys} = \beta_{e, girls}$	1	41359.900	6305	2.515	5	.774

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p -value; r_g DOS = genetic correlation between DOS twins.

Externalizing						
Model	vs	-2LL	df	χ^2	Δ df	p
1. ACE model	--	40255.408	6495	--	--	--
2. r_g DOS = 0.5	1	40256.376	6496	.968	1	.325
3. $\beta_{a, boys} = \beta_{a, girls}$, $\beta_{c, boys} = \beta_{c, girls}$, $\beta_{e, boys} = \beta_{e, girls}$	2	40262.911	6499	6.535	3	.088
4. $\beta_{a, boys} = \beta_{a, girls} = 0$, $\beta_{c, boys} = \beta_{c, girls} = 0$, $\beta_{e, boys} = \beta_{e, girls} = 0$	3	40289.292	6502	26.381	3	.000
5. $a_{boys} = a_{girls}$, $c_{boys} = c_{girls}$, $e_{boys} = e_{girls}$	3	40294.316	6502	31.405	3	.000
6. $c_{boys} = 0$	3	40263.479	6500	.567	1	.451
7. $c_{girls} = 0$	3	40267.459	6500	4.548	1	.03
8. Best model: AE_{males} , $ACE_{females}$ + $\beta_{a, boys} = \beta_{a, girls}$, $\beta_{c, boys} = \beta_{c, girls}$, $\beta_{e, boys} = \beta_{e, girls}$	1	40263.480	6500	8.072	5	.152

Note. vs = versus; -2LL = -2 log likelihood; df = degrees of freedom; χ^2 = chi-square test statistic; Δ df = degrees of freedom of χ^2 test; p = p -value; r_g DOS = genetic correlation between DOS twins.