

ACTION-proposal: Aggressive Behavior and its comorbidities

This document details a standard operating procedure (SOP) for the ECAP special issue paper on comorbidity of aggression with other psychopathologies

Contact details

Questions about this SOP can be directed to:

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We invite colleagues to take part in the writing group. Please let us know.

Background

The ACTION consortium is invited to contribute a paper to a special issue of European Child and Adolescent Psychiatry (<http://www.springer.com/medicine/psychiatry/journal/787>). We would like to contribute with a paper that describes the ACTION project and includes information on the comorbidity of aggression with other childhood psychopathologies.

We will report and compare the comorbidity analyses for 5 large population based samples. By comparing these analyses for the Netherlands (Amsterdam and Rotterdam), the UK, Finland, and Sweden we will provide unique insight into similarities and differences in comorbidity patterns across Europe. This is of potential large impact for the development of prevention and intervention strategies in the different countries.

Phenotype

The main variable of the analyses will be aggression as assessed with the cohort specific instrument (ASEBA for NTR, GENR, TCHAD, CATSS-15/18; SDQ for TEDS; ATAC for CATTs-9; MPNI for FINNTWINN12).

We will focus on full scale aggression of the specific instrument and include all raters and all ages available. We will report separately for boys and girls

Participants

Please include all age groups for whom an aggression measure is available. To avoid effects of family relatedness we will randomly select one child per family.

Descriptives and Analyses

We will include three sorts of information in the paper.

1. An updated description of the full cohorts. To this end please update the attached table in appendix 1.
2. Please provide a table that include sample size, mean levels, and standard deviations (see for example the appendix 2) for the sample that is used for the comorbidity analyses (so for the twin cohorts this table includes only the randomly selected individual)
3. Please provide a table with all phenotypic correlations of aggression with the other psychopathologies (see for example the Appendix 2).

Upload and Deadline

Please email the results tables to Meike (m.bartels@vu.nl) before the 20th of October 2016

Appendix 1: Table to be updated

Below you will find the table of the original ACTION application (**old table**). Given the progress for several cohorts we would like to include an updated table in the paper.

Please update the numbers (phenotypic data and genotypic data) in the second table (**new table**).

Old Table

Register	Age												Measures									
	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24	C	DNA	NC	SES	GWA	Env	EGD	MRI	Hor	CA
NTR	106,7	37,9	31,2	23,2	18,1	15,1	8,0	5,7	1,7	6,0			v	v	v	v	v	v		v	v	v
Qtwin						2,4	1,4	1,8			0,9		v	v	v	v	v	v		v		v
TEDS	12,6	28,4		29,2	6,8	11,8	6,7	10,2					v	v	v	v	v	v				v
TCHAD				2,0			2,0	2,0		2,0			v	v	v	v		v				
CATSS					10,5	10,5		5,0	2,5				v	v	v	v		v				
FT12						5,2	4,7		3,9		1,3		v	v	v	v	v	v	v		v	
GenR	4,5	5,2	7,8		5,0																	
Indiv (x 1000)	123,8	71,5	39	54,4	40,4	45	22,8	24,7	8.1	8	2,2		v	v	v	v	v	v	v	v	v	v

Legend: C = comorbid psychopathology, NC = neurocognitive function, SES = Social Economic Status, GWA = Genome-wide Association data (SNPs), Env = Environment (life events, family functioning), EGD = Epigenetic data, MRI = Magnetic resonance imaging, Hor = Hormones, CA = Cognitive ability

Abbreviations: NTR = Netherlands Twin Register, Qtwin = Queensland Twin Register, TEDS = Twins Early Development Study, TCHAD = Swedish Twin study of Child and Adolescent Development, CATSS = Child and Adolescent Twin Study in Sweden, FT12 = FinnTwinn12, GenR= Generation R

Appendix 2

NTR : Subjects and Methods.

Data: maternal reports at ages 3, 7, 9/10 and 12 years.

At each age one child per family was randomly selected, the only restriction being that equal numbers of first and second born twins were included. The largest sample sizes were at age 3 (9576 boys and 9492 girls) and the smallest at age 12 years (4011 boys and 4109 girls).

Pearson correlations and descriptive statistics were obtained from Spss. List-wise deletion of missing values was applied so that at each age the number of children with data for each scale was the same. All descriptive and correlation analyses were done separately for boys and girls.

A correlation of 0.10 can be detected with 99% power at $p=0.0014$ (0.05 divided by 35: 5 ages with a maximum of 7 correlations with aggression per age), given a sample size of 3033 Ss.

Age 3: Mean and SD for CBCL1.5-5 empirical scales (Child Behavior Check List)

	N=9576 boys		N = 9492 girls		
AGG3	11.60	6.88	9.90	6.24	Aggressive Behavior
AP3	2.39	2.00	2.04	1.84	Attention Problems
ANX3	1.99	2.02	2.05	2.00	Anxious/Depressed
EMO3	2.98	2.67	2.95	2.54	Emotionally Reactive
WIT3	1.50	1.73	1.39	1.58	Withdrawn
SOM3	1.78	1.84	1.86	1.92	Somatic Complaints
SLP3	1.91	2.21	1.95	2.23	Sleep Problems

Age 3: Correlations of aggression with other scales

	AP3	ANX3	WIT3	SOM3	EMO3	SLP3
AGG3 boys	.575	.475	.447	.364	.645	.353
AGG3 girls	.544	.472	.408	.352	.641	.376

Age5: Mean and SD for DCB scales (short Devereux Child Behaviors (DCB) Rating Scale)

	N=7771 boys		N = 7855 girls		
AGG5	12.38	3.82	11.68	3.43	Aggression
AP5	11.91	3.58	11.38	3.46	Attention problems

ANX5	10.69	3.33	11.04	3.39	Anxiety
EMO5	11.69	3.52	11.22	3.34	Emotional problems
SOC5	4.27	1.47	4.39	1.44	Social problems
COO5	9.92	3.22	8.48	2.72	Physical coordination
DEP5	11.53	3.13	10.79	2.93	Dependency problems

Age 5: Correlations of aggression with other scales

		AP5	ANX5	EMO5	SOC5	COO5	DEP5
AGG5	boys	.354	.342	.523	.142	.267	.040
AGG5	girls	.362	.350	.520	.078	.300	.027

Age 7: Mean and SD for CBCL6-18 empirical scales (Child Behavior Check List)

		N=5984 boys		N = 5933 girls		
AGG7		5.92	5.46	4.43	4.37	Aggressive Behavior
AP7		3.61	3.28	2.59	2.81	Attention Problems
ANX7		2.18	2.58	2.33	2.59	Anxious/Depressed
WIT7		1.19	1.68	1.11	1.56	Withdrawn/Depressed
SOM7		1.12	1.58	1.29	1.75	Somatic Complaints
SOC7		2.29	2.59	1.97	2.29	Social Problems
RB7		1.61	2.07	1.09	1.57	Rule-Breaking Behavior
TP7		1.72	2.20	1.31	1.87	Thought Problems

Age 7: Correlations of aggression with other scales

		AP7	ANX7	WIT7	SOM7	SOC7	RB7	TP7
AGG7	boys	.577	.472	.371	.300	.642	.687	.478
AGG7	girls	.550	.480	.388	.332	.654	.652	.482

Age 9: Mean and SD for CBCL6-18 empirical scales (Child Behavior Check List)

	N=4756 boys		N = 4773 girls	
AGG9	5.29	5.33	3.97	4.21
AP9	3.53	3.31	2.48	2.83
ANX9	2.22	2.76	2.42	2.87
WIT9	1.32	1.86	1.15	1.65
SOM9	1.09	1.68	1.29	1.79
SOC9	2.18	2.67	1.88	2.38
RB9	1.48	2.06	.95	1.56
TP9	1.63	2.25	1.26	1.79

Age 9: Correlations of aggression with other scales

	AP9	ANX9	WIT9	SOM9	SOC9	RB9	TP9
AGG9 boys	.577	.493	.398	.291	.647	.717	.477
AGG9 girls	.557	.544	.422	.329	.657	.666	.473

Age 12: Mean and SD for CBCL6-18 empirical scales (Child Behavior Check List)

	N= 4011 boys		N = 4109 girls	
AGG12	4.31	4.86	3.37	3.88
AP12	3.20	3.26	2.21	2.69
ANX12	1.96	2.61	2.22	2.76
WIT12	1.31	1.88	1.15	1.70
SOM12	.87	1.43	1.05	1.63
SOC12	1.85	2.59	1.58	2.29
RB12	1.32	1.94	.82	1.41
TP12	1.38	2.06	1.07	1.70

Age 12: Correlations of aggression with other scales

	AP12	ANX12	WIT12	SOM12	SOC12	RB12	TP12
AGG12 boys	.594	.507	.428	.263	.622	.726	.498
AGG12 girls	.549	.534	.447	.348	.625	.672	.397