

Supplementary materials

Table S1 Demographic variables of included children and their parents

Variable	Children	Parents
Gender		
n	146	146
% Female	69.9	76
% Male	30.1	24
Age		
n	146	133
Mean (SD)	14.55 (2.40)	45.67 (5.74)
Min-Max	8.2-17.9	31-62
Child chronic comorbid somatic condition		
n	142	
% No	50.7	
% Don't know	14.8	
% Yes	34.5	
Type: chronic comorbid condition		
n	44	
% Allergy/Asthma	83	
% Other/single answers	17	
Parental level of education		
n		133
% Basic/High school		41.4
% University		58.6
Parental chronic pain		
n		134
% No		67.2
% Yes		32.8
Parental health (1-5)		
n		134
Mean (SD)		3.60 (1.026)
% Poor (1)		4.5
% Reasonably good (2)		9.7
% Good (3)		23.9
% Very good (4)		44.8
% Excellent (5)		17.2

Table S2 Pain duration, frequency, and intensity, pain sites, perceived pain triggers, and perceived reasons for pain debut for included children

Variable	% (n)
Pain duration (1-5)	
n=146	
Mean (SD)=4.69 (.649)	
1=Less than one month	0 (0)
2=1-3 months	2.1 (3)
3=3-6 months	4.1 (6)
4=6-12 months	16.4 (24)
5=>12 months	77.4 (113)
Pain frequency (1-5)	
n=146	
Mean (SD)=4.58 (.769)	
1=Once a month	0.7 (1)
2=2-3 times/month	3.4 (5)
3=Once a week	2.7 (4)
4=Several times/week	24 (35)
5=Every day	69.2 (101)
Pain site (Yes/No; multiple responses possible)	
n=146	
≥3 Pain sites	74 (108)
Headache	79.5 (116)
Back pain	61 (89)
Stomach pain	59.6 (87)
Leg pain	48.6 (71)
Throat pain	32.2 (47)
Arm pain	28.8 (42)
Chest pain	23.3 (34)
Ear pain	16.4 (24)
Genital pain	8.2 (12)
Tooth ache	8.2 (12)
Other pain	38.2 (55)
Pain intensity (PI) ^a	
n=140	
Mean (SD)= 59.02 (13.55)	
Perceived pain triggers (Yes/No; multiple responses possible)	
n=141	
Don't know	41.1 (58)
Physical exercise	35.5 (50)
School	22 (31)
Worry	22 (31)

Variable	% (n)
Sleep deprivation	16.3 (23)
School test/s	14.2 (20)
Weather condition/s	14.2 (20)
Cold (weather)	12.1 (17)
Noise	12.1 (17)
Anger/conflict	10.6 (15)
Sadness	10.6 (15)
Nothing	9.9 (14)
Menstrual period	8.5 (12)
Family situation	8.5 (12)
Nutrition/Candy	5.7 (8)
Loneliness	5 (7)
Computer activity	4.3 (6)
TV	2.8 (4)
New situations	2.8 (4)
Other (pain itself, body parts)	28.4 (40)
Perceived reason/s for pain debut (Yes/No; multiple responses possible) n=144	
Don't know	35.4 (51)
Illness	22.9 (33)
Injury	16 (23)
Physical exercise	13.9 (20)
Medical procedure	6.3 (9)
Other (death of a family member, divorce, menstruation, unspecified)	19.4 (28)
Did you receive a diagnosis for your pain condition? (Yes/No/Don't know) n=144	
Yes	38.3 (54)
No	34 (48)
Don't know	27.7 (39)

Notes: ^aAssessed with a visual analog scale (VAS) 0-100 mm.

Abbreviations: LPQ, Lübeck Pain Questionnaire.

Table S3 Comparison on demographic variables between children below and above cutoff on the SRS for clinically significant autistic traits

Variable	Below cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Above cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Test value	Sig.	Effect size (d)
Child Age (years, months)	126	14.88 (4.1)	20	15.51 (2.1)	U = 1177.500	n.s.	.36
Child gender (girls)	84	66.7%	18	90%	χ^2 (1, n = 146) = 4.463	.035* ^c	
Comorbid chronic illness (Yes)	42	34.4%	7	35%	χ^2 (2, n = 142) = .005	n.s.	.46
Parent age (years)	113	45.97±5.680	20	43.95±5.942	t (131)=1.46	n.s.	
Parent gender (mothers)	96	76.2%	15	70%	χ^2 (1, n = 146) = .908	n.s.	.46
Parental education (university)	69	61.1%	9	45%	χ^2 (1, n = 133) = 1.808	n.s.	
Parental health (1-5)	114	4 (1)	20	3 (2)	U = 787.500	.020*	.46
Parental chronic pain (Yes)	35	30.7%	9	45%	χ^2 (1, n = 134) = 1.577	n.s.	

Notes: ^aM±SD=Mean±Standard deviation; ^bMdn (IQR)=Median (Inter Quartile Range); *p< .05; ^cConfirmed with Fisher's Exact test (2-sided) .037*.

Abbreviations: SRS, Social Responsiveness Scale.

Table S4 Comparison on pain variables between children below and above cutoff for clinically significant autistic traits on the SRS

Variable	Below cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Above cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Test value	Sig.	Effect size (d)	
Pain intensity (0-100)	126	58.83±13.699	20	60.15±12.910	t (138)=-.401	n.s.	.46	
Pain duration (1-5)	126	5 (0)	20	5 (0)	U =1234.000	n.s.		
Pain frequency (1-5)	126	5 (1)	20	5 (1)	U =1190.500	n.s.		
Pain site/s								
Headache (Yes)	99	78.6%	18	90%	χ^2 (1, n = 146) = 1.416	n.s.		
Back pain (Yes)	76	60.3%	13	65%	χ^2 (1, n = 146) = .159	n.s.		
Arm pain (Yes)	35	27.8%	7	35%	χ^2 (1, n = 146) = .439	n.s.		
Leg pain (Yes)	60	47.6%	11	55%	χ^2 (1, n = 146) = .376	n.s.		
Ear pain (Yes)	19	15.1%	5	25%	χ^2 (1, n = 146) = 1.237	n.s.		
Stomach pain (Yes)	73	57.9%	14	70%	χ^2 (1, n = 146) = 1.043	n.s.		
Chest pain (Yes)	27	21.4%	7	35%	χ^2 (1, n = 146) = 1.780	n.s.		
Throat pain (Yes)	38	30.2%	9	45%	χ^2 (1, n = 146) = 1.742	n.s.		
Genital pain (Yes)	10	7.9%	2	10%	χ^2 (1, n = 146) = .097	n.s.		
Toothache (Yes)	9	7.1%	3	15%	χ^2 (1, n = 146) = 1.413	n.s.		
Other pain (Yes)	48	38.1%	8	40%	χ^2 (1, n = 146) = .026	n.s.		
Pain trigger/s								
Weather condition/s (Yes)	16	13.2%	4	20%	χ^2 (1, n = 141) = .648	n.s.		
Anger/Conflict (Yes)	13	10.7%	2	10%	χ^2 (1, n = 141) = .010	n.s.		
School (Yes)	22	18.2%	9	45%	χ^2 (1, n = 141) = 7.197	.007**		
Worry (Yes)	24	19.8%	7	35%	χ^2 (1, n = 141) = 2.301	n.s.		
Sadness (Yes)	14	11.6%	1	5%	χ^2 (1, n = 141) = .779	n.s.		
New situations (Yes)	4	3.3%	0	0%	χ^2 (1, n = 141) = .680	n.s.		
Nutrition/Candy (Yes)	5	4.1%	3	15%	χ^2 (1, n = 141) = 3.788	n.s.		

Variable	Below cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Above cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Test value	Sig.	Effect size (d)
Sleep deprivation (Yes)	21	17.4%	2	10%	$\chi^2 (1, n = 141) = .680$	n.s.	
Cold (weather) (Yes)	13	10.8%	4	20%	$\chi^2 (1, n = 141) = 1.350$	n.s.	
TV (Yes)	3	2.5%	1	5%	$\chi^2 (1, n = 141) = .396$	n.s.	
Loneliness (Yes)	6	5%	1	5%	$\chi^2 (1, n = 141) = .000$	n.s.	
Menstrual period (Yes)	9	7.4%	3	15%	$\chi^2 (1, n = 141) = 1.260$	n.s.	
Noise (Yes)	15	12.4%	2	10%	$\chi^2 (1, n = 141) = 1.260$	n.s.	
Family situation (Yes)	11	9.1%	1	5%	$\chi^2 (1, n = 141) = .369$	n.s.	
Computer activity (Yes)	5	4.1%	1	5%	$\chi^2 (1, n = 141) = .032$	n.s.	
School test/s (Yes)	17	14%	3	15%	$\chi^2 (1, n = 141) = .013$	n.s.	
Physical exercise (Yes)	44	36.4%	6	30%	$\chi^2 (1, n = 141) = .304$	n.s.	
Nothing (Yes)	12	9.9%	2	10%	$\chi^2 (1, n = 141) = .000$	n.s.	
Other (pain itself, body parts) (Yes)	33	27.3%	7	35%	$\chi^2 (1, n = 141) = .504$	n.s.	
Don't know (Yes)	52	43%	6	30%	$\chi^2 (1, n = 141) = 1.193$	n.s.	
Perceived reason/s for pain debut							
Injury (Yes)	23	18.5%	0	0%	$\chi^2 (1, n = 144) = 4.415$	n.s.	
Medical procedure (Yes)	9	7.3%	0	0%	$\chi^2 (1, n = 144) = 1.548$	n.s.	
Illness (Yes)	27	21.8%	6	30%	$\chi^2 (1, n = 144) = .660$	n.s.	
Physical exercise (Yes)	17	13.7%	3	15%	$\chi^2 (1, n = 144) = .024$	n.s.	
Other (see Table S2 for definition) (Yes)	21	16.9%	1	5%	$\chi^2 (1, n = 144) = 1.895$	n.s.	
Don't know (Yes)	38	30.6%	13	65%	$\chi^2 (1, n = 144) = 8.887$.003**	.52

Notes: ^aM±SD=Mean±Standard deviation; ^bMdn (IQR)=Median (Inter Quartile Range); *p< .05;**p< .01.

Abbreviations: SRS, Social Responsiveness Scale.

Table S5 Comparison on demographic variables between children below and above cutoff on the C3 Index for clinically significant traits of ADHD

Variable	Below cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Above cutoff (n)	M±SD ^a Mdn (IQR) ^b Group %	Test value	Sig.	Effect size (d)
Child Age (years, months)	117	14.69 (3.6)	29	15.33 (3)	U = 1543.500	n.s.	0.37
Child gender (girls)	82	70.1%	20	69%	χ^2 (1, n = 146) = .014	n.s.	
Comorbid chronic illness (Yes)	38	33.6%	11	37.9%	χ^2 (2, n = 142) = .191	n.s.	
Parent age (years)	106	45.48±5.509	27	46.41±6.646	t (131)=-.75	n.s.	
Parent gender (mothers)	88	75.2%	23	79.3%	χ^2 (1, n = 146) = .214	n.s.	
Parental education (university)	67	63.2%	11	40.7%	χ^2 (1, n = 133) = 4.479	.034*	
Parental health (1-5)	114	4 (1)	20	4 (1)	U =1369.000	n.s.	
Parental chronic pain (Yes)	35	32.7%	9	33.3%	χ^2 (1, n = 134) = .004	n.s.	

Notes: ^aM±SD=Mean±Standard deviation; ^bMdn (IQR)=Median (Inter Quartile Range);*p< .05.

Abbreviations: C3, Conners-3.

Table S6 Comparison on pain variables between children below and above cutoff on the C3 Index for clinically significant traits of ADHD

Variable	Below cutoff (n=)	M±SD ^a Mdn (IQR) ^b Group %	Above cutoff (n=)	M±SD ^a Mdn (IQR) ^b Group %	Test value	Sig.	Effect size (d)
Pain intensity (0-100)	111	58.95±12.841	29	59.31±16.242	t (138)=-.128	n.s.	
Pain duration (1-5)	117	5 (0)	29	5 (1)	U =1635.500	n.s.	
Pain frequency (1-5)	117	5 (1)	29	5 (1)	U =1538.000	n.s.	
Pain site/s							
Headache (Yes)	92	78.6%	25	86.2%	χ^2 (1, n = 146) = .838	n.s.	
Back pain (Yes)	70	59.8%	19	65.5%	χ^2 (1, n = 146) = .316	n.s.	
Arm pain (Yes)	31	26.5%	11	37.9%	χ^2 (1, n = 146) = .1483	n.s.	
Leg pain (Yes)	54	46.2%	17	58.6%	χ^2 (1, n = 146) = 1.446	n.s.	
Ear pain (Yes)	18	15.4%	6	20.7%	χ^2 (1, n = 146) = .476	n.s.	
Stomach pain (Yes)	67	57.3%	20	69%	χ^2 (1, n = 146) = 1.321	n.s.	
Chest pain (Yes)	23	19.7%	11	37.9%	χ^2 (1, n = 146) = 4.344	n.s.	
Throat pain (Yes)	36	30.8%	11	37.9%	χ^2 (1, n = 146) = .546	n.s.	
Genital pain (Yes)	10	8.5%	2	6.9%	χ^2 (1, n = 146) = .084	n.s.	
Toothache (Yes)	9	7.7%	3	10.3%	χ^2 (1, n = 146) = .217	n.s.	
Other pain (Yes)	45	38.5%	11	37.9%	χ^2 (1, n = 146) = .003	n.s.	
Pain trigger/s							
Weather condition/s (Yes)	16	14.3%	4	13.8%	χ^2 (1, n = 141) = .005	n.s.	
Anger/Conflict (Yes)	12	10.7%	3	10.3%	χ^2 (1, n = 141) = .003	n.s.	
School (Yes)	21	18.8%	10	34.5%	χ^2 (1, n = 141) = 3.324	n.s.	
Worry (Yes)	21	18.8%	10	34.5%	χ^2 (1, n = 141) = 3.324	n.s.	
Sadness (Yes)	11	9.8%	4	13.8%	χ^2 (1, n = 141) = .382	n.s.	
New situations (Yes)	1	0.9%	3	10.3%	χ^2 (1, n = 141) = 7.466	.006** c	.47

Variable	Below cutoff (n=)	M±SD ^a Mdn (IQR) ^b Group %	Above cutoff (n=)	M±SD ^a Mdn (IQR) ^b Group %	Test value	Sig.	Effect size (d)	
Nutrition/Candy (Yes)	4	3.6%	4	13.8%	$\chi^2 (1, n = 141) = 4.497$.n.s.	.46	
Sleep deprivation (Yes)	18	16.1%	5	17.2%	$\chi^2 (1, n = 141) = .023$	n.s.		
Cold (weather) (Yes)	11	9.9%	6	20.7%	$\chi^2 (1, n = 141) = 2.504$	n.s.		
TV (Yes)	2	1.8%	2	6.9%	$\chi^2 (1, n = 141) = 2.183$	n.s.		
Loneliness (Yes)	4	3.6%	3	10.3%	$\chi^2 (1, n = 141) = 2.240$	n.s.		
Menstrual period (Yes)	9	8%	3	10.3%	$\chi^2 (1, n = 141) = .158$	n.s.		
Noise (Yes)	11	9.8%	6	20.7%	$\chi^2 (1, n = 141) = 2.566$	n.s.		
Family situation (Yes)	6	5.4%	6	20.7%	$\chi^2 (1, n = 141) = 6.955$.008**		
Computer activity (Yes)	4	3.6%	2	6.9%	$\chi^2 (1, n = 141) = .625$	n.s.		
School test/s (Yes)	14	12.5%	6	20.7%	$\chi^2 (1, n = 141) = 1.269$	n.s.		
Physical exercise (Yes)	42	37.5%	8	27.6%	$\chi^2 (1, n = 141) = .989$	n.s.		
Nothing (Yes)	14	12.5%	0	0%	$\chi^2 (1, n = 141) = 4.025$	n.s.		
Other (pain itself, body parts) (Yes)	32	28.6%	8	27.6%	$\chi^2 (1, n = 141) = .011$	n.s.		
Don't know (Yes)	48	42.9%	10	34.5%	$\chi^2 (1, n = 141) = .667$	n.s.		
Perceived reason/s for pain debut								
Injury (Yes)	18	15.7%	5	17.2%	$\chi^2 (1, n = 144) = .044$	n.s.		
Medical procedure (Yes)	9	7.8%	0	0%	$\chi^2 (1, n = 144) = 2.421$	n.s.		
Illness (Yes)	25	21.7%	8	27.6%	$\chi^2 (1, n = 144) = .448$	n.s.		
Physical exercise (Yes)	16	13.9%	4	13.8%	$\chi^2 (1, n = 144) = .000$	n.s.		
Other (see Table S2 for definition) (Yes)	18	15.7%	4	13.8%	$\chi^2 (1, n = 144) = .062$	n.s.		
Don't know (Yes)	41	35.7%	10	34.5%	$\chi^2 (1, n = 144) = .014$	n.s.		

Notes: ^aM±SD=Mean±Standard deviation; ^bMdn (IQR)=Median (Inter Quartile Range); *p< .05;**p< .01; ^cConfirmed with Fisher's Exact test (2-sided) .027*.

Abbreviations: C3, Connors-3.