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A Rapid Review and Meta-Analysis of School-Based Interventions Targeting the Core Difficulties of ADHD and Accompanying Impairments (2018-2023)

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Supplementary

Study name	Study Place	Population	Medication Use among Treatment (%)	Study Design	Study Duration	Treatment Group Sample Size	Control Group Sample Size	Treatment Group Race/ Ethnicity	Male Students in Treatment (%)	Intervention Name	Intervention Implemented by	Type of Control Group	Intervention Components	Follow up Results
Social Function	US	Se	36	Stratifie	Aye	85	85	71%	80	Mul	Graduate	Co	Academic and social skills, study	Yes,

ing Outcomes of a High School-Based Treatment Program for Adolescents with ADHD	A	condary School, Grade 9 to 11		d cluster based on medication and gender followed by RCT	ar			White 17% African-American		tic component CHP	students, supervised by two licensed psychologists as coaches	mmunity Care	and organisation skills, problem solving, and interpersonal skills. The concept of "ideal self" was introduced to set goals. Parents attended 10 group sessions	in 6 months
Can School Mental Health Providers Deliver Psychosocial Treatment Improving Youth Attention and Behavior in Mexico?	Mexico and USA	Primary Schools, Grades 1 to 5	31.8	Two-level (student, schools) cluster RCT	6 weeks	28	30	Hispanic, no other information	74	Collaborative Life Skills-FUERTE	School mental health providers (SMHPs)	Business as usual	Six parent sessions on behaviour management; six 60-minute sessions for students including strategies on behaviour management, organisation and social skills. Teachers also received a 60-minute session for daily report cards and encouraging individual behavioural goals	No
Training Executive,	USA	Pre	Nom	Student	5 weeks	26	25	69.2%	76.9	TEA	Parent groups led by	Par	Neurocognitive games including inhibitory and	Yes, bo

Attention, and Motor Skills (TEAMS): a Preliminary Randomised Clinical Trial of Preschool Youth with ADHD		school, aged 4–to-5	education	level				White 26.9% Multiracial		MS	PhD/ doctoral level psychologists, child components by undergraduates and psychologist s in teams of 3	ent Education & Support	behaviour control, attention and planning skills, relaxation techniques; 20-minute psychoeducation sessions for parents.	ostersession in a month, follow up in 3
Randomized control study of the effects of executive function training on peer difficulties of children with attention-deficit/hyperactivity disorder C subtype	China	Primary Schools, Grade 3 to 6	NI	Student level	12 weeks	26	28	Asian, no other information	61.5	Group Executive Function Training	Therapists/ Clinical psychologists	Waiting list	Computerised cognition tasks targeting inhibition, working memory, flexibility, as well as group games with EF and metacognition skills	Yes, in 3 months (No CG)
Promoting Classroom Social	Cana	Prima	NI	RCT for teachers	An academ	73	61	56.1% Hi	76.7	MOSAI	Teachers trained by	Cont	Teacher-student sessions on behavioural strategies, such as	No

and Academic Functioning among Children at Risk for ADHD: The MOSAIC Program	da and USA	ry Schools, Grade 1 to 5		, who appointed the children	ic ye ar, 13 sessions			spanic 19.2% Black/ African-American		C	consultants	rol group	highlighting positive attributes, setting out expectations, discrete corrections to increase children's competent behaviours.	
Sustained Effects of Collaborative School-Home Intervention for Attention-Deficit/Hyperactivity Disorder Symptoms and Impairment	USA	Primary Schools, Grade 2 to 5	9.7	Randomise d Cluster Sampling on School level based on free or reduced lunch	10-12 weeks, followed by booster sessions once a month	72	62	31% White 22% Asian	75	Collaborative Life Skills	SMHPs	Business as usual	40-minute sessions including reward-based contingency management. Focused on problem-solving, self-control, social functioning and independence (i.e., homework). Parents received 10 group sessions. The intervention is accompanied by a classroom component for teachers, parents, and students with DRC and classroom accommodations	Yes, in a year
High versus Low Intensity Summer Treatment for	USA	Secondа	45.9	Stratified randomisat	8 weeks	105	104	70.1% Hispanic	76.1	High Intensi	School district personnel, teachers (acade	Control	Modules aimed at materials and time management, planning and homework completion, working with	Yes, end of scho

ADHD Delivered at Secondary School Transitions		rys chools, Grade		ion on grade				17.8% Black/ African-American		tySummer Intervention	mic) and lead counsellor (group sessions), SMHPs (parent training)	Group	peers, independence. Behaviour counts for social rewards. Parent sessions on monitoring and applying academic and behavioural tasks	olyear with a boos ter session
Note: The percentages shown for these studies reflect the initially recruited participants before the intervention begins, not the final number after the drop-outs.														

Table S1. Characteristics of papers included in the meta-analyses.

Study	**Outcome**	**Sample Size - Treatment**	**Sample Size - Control**	**Extracted Data - Treatment Group**	**Extracted Data - Control Group**	**Sensitivity Model-1b: ADHD**	**Extracted Data - Treatment Group**	**Extracted Data - Control Group**	**Subgroup Model-1c: ADHD Outcome type**	**Follow up Model-1e: ADHD**	**Sample Sizes (T, C)**	**Extracted Data - Treatment Group**	**Extracted Data - Control Group**
1. Evans	Parent (combined inattention +hyperactivity)	170	170	M=11.4 SD=7.19	M=12.7 SD=7.57	Parent (combined inattention +hyperactivity)	M=11.4 SD=7.19	M=12.7 SD=7.57	Group 1: Inattention	Parent (combined inattention +hyperactivity)	T=170 C=170	M=9.2 SD=6.64	M=11.10 SD=7.45
2. Haack	Parent	28	30	M=1.12 SD=.53	M=1.66 SD=.66	Teacher	M=2.00 SD=.66	M=1.29 SD=.69	Group 2: Hyperactivity Group: ADHD	-	-	-	-
3.	Parent	26	25	M=28.50	M=28.6	Teacher	M=29.65	M=26.3	Group:	Parent	T=24	M=29.92	M=27.0

Halperin				SD= 9.61	9 SD= 10.69		SD= 11.11	5 SD= 11.38	ADHD		C= 23	SD= 9.59	4 SD= 9.37
4. Lan	Parent (combined inattention + hyperactivity)	54	56	M=76.03 SD= 9.40	M=78.99 SD= 6.52	Parent (combined inattention + hyperactivity)	M=76.03 SD= 9.40	M= 78.99 SD= 6.52	Group 1: Inattention Group 2: Hyperactivity	No information	-	-	-
5. Mikami	Teacher	73	61	M=1.14 SD=.66	M= 1.27 SD=.74	Teacher	M=1.14 SD=.66	M= 1.27 SD=.74	Group: ADHD	-	-	-	-
6. Pfiffner	Parent	72	62	M=18.09 SD= 8.13	M= 27.30 SD= 10.68	Teacher	M=19.99 SD= 9.33	M= 27.50 SD= 9.82	Group: ADHD	Parent	T= 72 C= 59	M=18.49 SD= 8.11	M= 24.35 SD= 9.56
7. Sibley	Parent (combined inattention + hyperactivity)	218	214	M=1.23 SD=.67	M=.97 SD=.71	Teacher	M=1.65 SD=.75	M= 1.25 SD=.65	Group 1: Inattention Group 2: Hyperactivity	Parent (combined inattention + hyperactivity)	T= 218 C= 214	M=.83 SD=.67	M=.84 SD=.66

Table S2A. Quantified outcomes for the core ADHD difficulties.

S	Outco	Sa	Sa	Extra	Extra	Sensiti	Extra	Extra	Follo	Sa	Extra	Extra

tudy	me	mple Size - Treatment	mple Size - Control	cted Data - Treatment Group	cted Data - Control Group	vity Model-2b: Impairment	cted Data - Treatment Group	cted Data - Control Group	w up Model-1d: Impairment	mple Sizes (T, C)	cted Data - Treatment Group	cted Data - Control Group
1. Evans	Parent rated DBD-ODD	85	85	M=7.9 SD=6.1	M=8.9 SD=6.0	Parent rated DBD-CD	M=2.0 SD=2.6	M=2.9 SD=3.4	Parent	T=85 C=85	M=6.3 SD=5.2	M=7.8 SD=5.5
2. Haack	Parent rated ODD	28	30	M=1.02 SD=.63	M=1.36 SD=.77	Teacher reported ODD	M=.89 SD=.74	M=1.49 SD=.77	-	-	-	-
3. Halperin	Parent rated CPC: Impairment at home	26	25	M=6.58 SD=3.80	M=6.73 SD=4.03	Teachers rated CPC: Impairment at school	M=6.23 SD=3.29	M=5.31 SD=3.34	Parent	T=24 C=23	M=6.54 SD=3.65	M=6.27 SD=3.75
4.Lan	Parent rated SAICA-Interaction with peers	27	28	M=40.21 SD=8.11	M=28.27 SD=5.39	Parent reported SAICA-Problems with peers	M=24.21 SD=7.82	M=31.35 SD=6.94	No information on the waitlist group	-	-	-
5. Mikami	Adolescent rated Social Preference	73	61	M=-.12 SD=.32	M=-.04 SD=.28	Teacher rated ASF Enablers	M=3.22 SD=.60	M=3.02 SD=.60	-	-	-	-
6. Pfi	Parent rated ODD	72	62	M=6.03 SD=3.86	M=9.43 SD=5.09	Teacher reported	M=4.46 SD=4.44	6.06 SD=5.07	Parent	T=72 C=59	M=6.31 SD=3.61	M=8.37 SD=4.13

ffner						ODD						
7.Sibley	Parent rated Organisation Problems	105	104	M=1.16 SD=.57	M=1.20 SD=.57	Teacher reported Organisation Problems	M=1.20 SD=.71	M=1.26 SD=.68	Parent	T=104 C=103	M=.97 SD=.62	M=1.14 SD=.67

Table S2B. Quantified outcomes for the ADHD accompanying impairments.

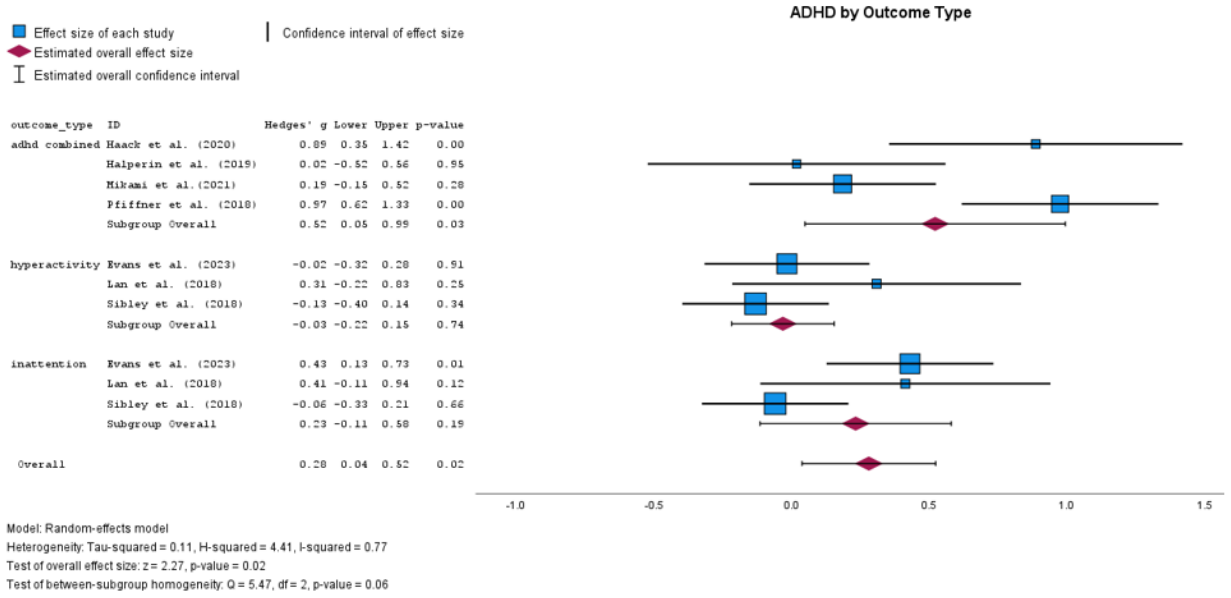


Figure S2A. Forest plot showing the subgroup analysis of ADHD by the outcome type.

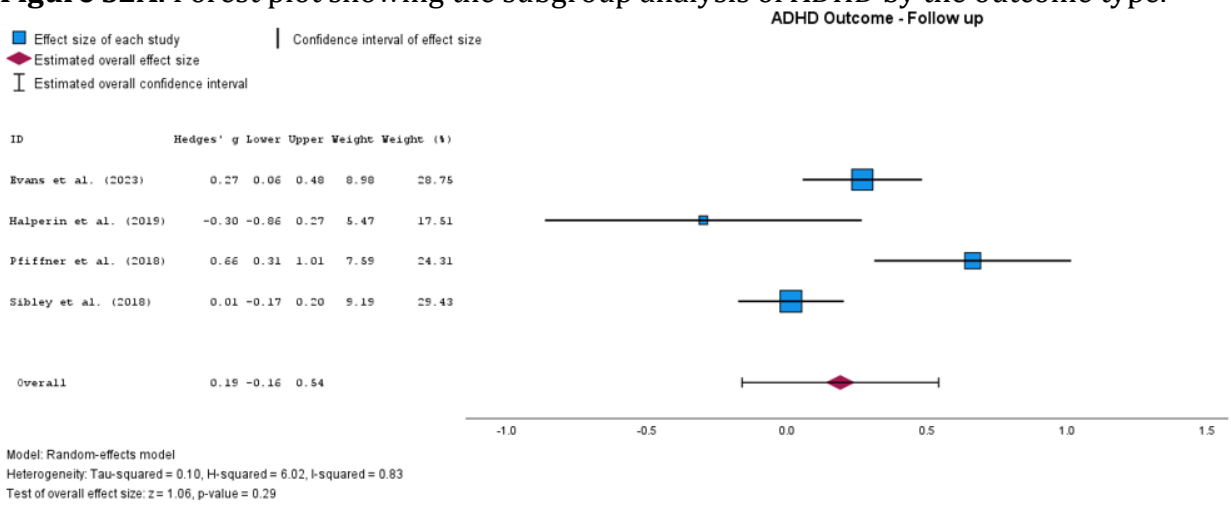
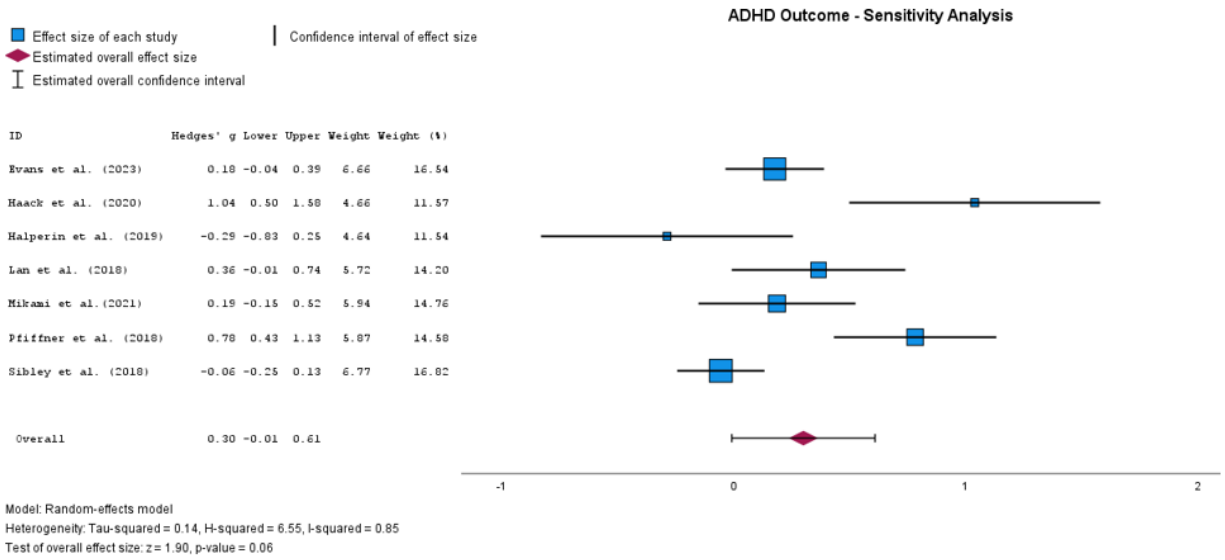
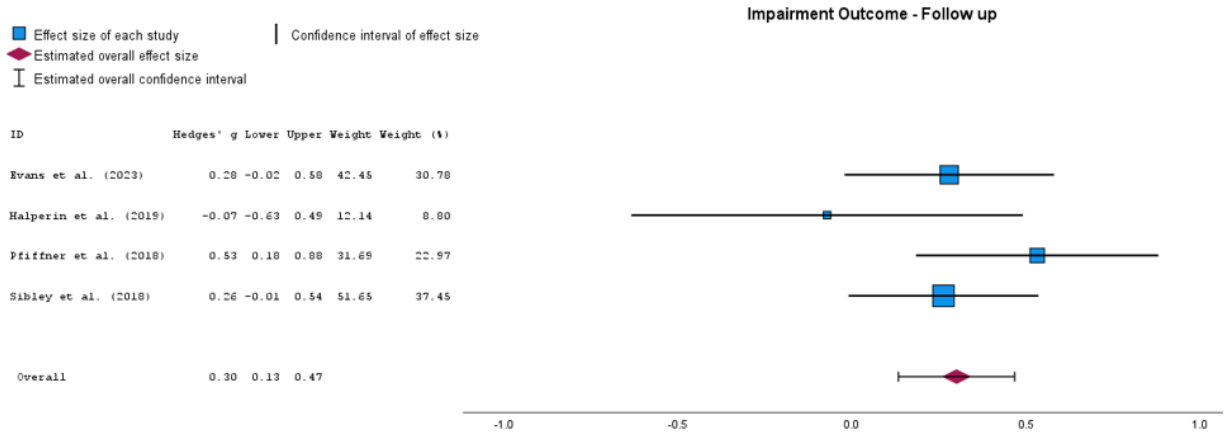


Figure S2B. Forest plot showing the follow up effects for ADHD.



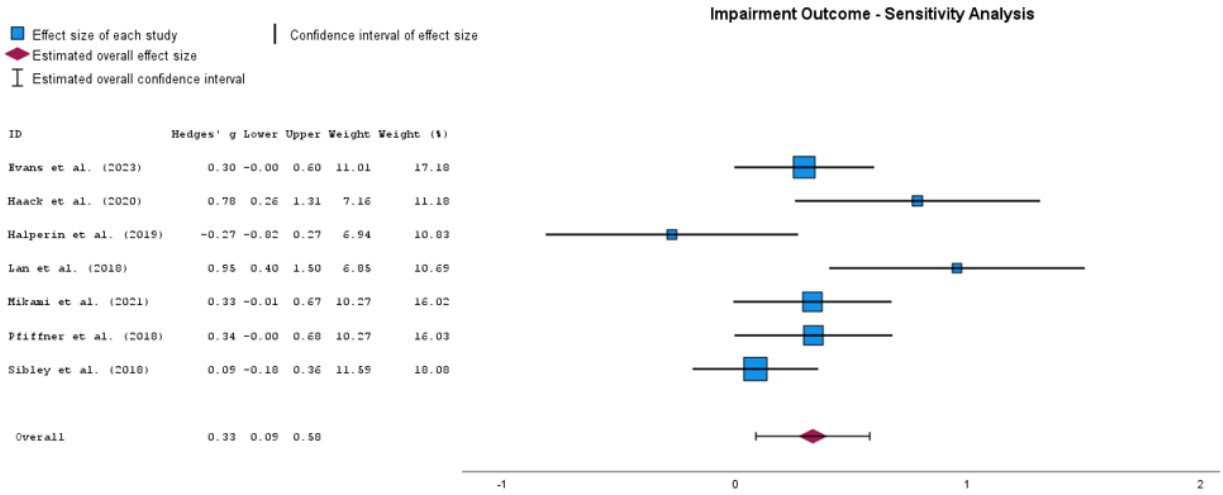
Model: Random-effects model
Heterogeneity: Tau-squared = 0.14, H-squared = 6.55, I-squared = 0.85
Test of overall effect size: z = 1.90, p-value = 0.06

Figure S2C. Forest plot showing the sensitivity analysis of ADHD.



Model: Random-effects model
Heterogeneity: Tau-squared = 0.00, H-squared = 1.00, I-squared = 0.00
Test of overall effect size: z = 3.52, p-value = 0.00

Figure S3A. Forest plot showing the follow up effects for ADHD related impairment.



Model: Random-effects model
Heterogeneity: Tau-squared = 0.07, H-squared = 2.85, I-squared = 0.65
Test of overall effect size: z = 2.67, p-value = 0.01

Figure S3B. Forest plot showing the sensitivity analysis for ADHD related impairment.