

Table S1. Summary of missing data on variables used for multiple imputation

Variable	Missing, n (%)	Range/Number of categories	Mean (SD)	Imputation technique
Sex	0 (0.0)	2	—	—
Age at Wave 2	0 (0.0)	135–163	146.0 (3.7)	—
Mothers' age at Wave 2	233 (7.9)	3	—	Proportional odds model
Fathers' age at Wave 2	414 (14.1)	3	—	Proportional odds model
Mothers' education level	23 (0.8)	3	—	Proportional odds model
Fathers' education level	135 (4.6)	3	—	Proportional odds model
Annual family income	277 (9.4)	5	—	Proportional odds model
ADHD symptoms at Wave 1	0 (0.0)	0–10	3.0 (2.1)	—
ADHD symptoms at Wave 2	0 (0.0)	0–10	2.7 (2.1)	—
ADHD diagnosis	0 (0.0)	2	—	—
Self-rated self-harm behavior	508 (17.2)	2	—	Logistic regression
Parent-rated self-harm behavior	241 (8.2)	2	—	Logistic regression
School absenteeism	4 (0.1)	2	—	Logistic regression
Psychological well-being	132 (4.5)	0–25	18.8 (4.7)	Predictive mean matching
Self-esteem	177 (6.0)	10–40	26.8 (4.6)	Predictive mean matching
Depression	509 (17.3)	0–26	3.8 (4.5)	Predictive mean matching
Emotional symptoms	13 (0.4)	0–10	1.3 (1.6)	Predictive mean matching
Conduct problems	8 (0.3)	0–10	1.7 (1.5)	Predictive mean matching
Peer relationship problems	12 (0.4)	0–10	1.5 (1.6)	Predictive mean matching
Prosocial behavior	4 (0.1)	0–10	6.5 (2.1)	Predictive mean matching
Yelling	249 (8.5)	2	—	Logistic regression
Slapping	249 (8.5)	2	—	Logistic regression

Table S2. Outcome differences between persistent ADHD symptoms and diagnosis groups using imputed data

Outcome	Study group			Group difference (95% CI)		
	ADHD diagnosis group	No-ADHD diagnosis group	Control group	ADHD diagnosis vs. No-ADHD diagnosis	ADHD diagnosis vs. Control	No-ADHD diagnosis vs. Control
Binary outcome						
Self-rated self-harm behavior, %	21.8	13.9	11.1	7.9 (−7.7, 23.4)	10.7 (−2.6, 24.0)	2.9 (−5.4, 11.1)
Parent-rated self-harm behavior, %	8.3	4.3	1.3	4.0 (−5.1, 13.2)	7.0 (−0.8, 14.8)	3.0 (−1.8, 7.7)
Parent-rated school absenteeism, %	6.0	1.3	1.0	4.7 (−2.4, 11.8)	5.0 (−1.6, 11.6)	0.3 (−2.3, 2.9)
Continuous outcome						
Self-rated psychological well-being, mean (SD)	18.2 (5.3)	18.2 (5.1)	18.8 (4.7)	0.0 (−1.8, 1.8)	−0.6 (−2.1, 0.8)	−0.7 (−1.8, 0.4)
Self-rated self-esteem, mean (SD)	24.6 (4.5)	25.4 (4.6)	26.8 (4.6)	−0.8 (−2.6, 1.0)	−2.2 (−3.6, −0.9)*	−1.4 (−2.6, −0.3)*
Self-rated depression, mean (SD)	6.8 (6.5)	5.4 (5.4)	3.8 (4.4)	1.3 (−0.4, 3.1)	3.0 (1.6, 4.3)*	1.6 (0.5, 2.7)*
Parent-rated emotional symptoms, mean (SD)	2.8 (2.4)	2.4 (2.2)	1.3 (1.6)	0.5 (−0.1, 1.1)	1.6 (1.1, 2.0)*	1.1 (0.7, 1.5)*
Parent-rated conduct problems, mean (SD)	3.1 (2.2)	3.5 (2.0)	1.7 (1.4)	−0.5 (−1.0, 0.1)	1.4 (1.0, 1.8)*	1.8 (1.5, 2.2)*
Parent-rated peer relationship problems, mean (SD)	3.3 (2.4)	3.0 (2.5)	1.5 (1.5)	0.3 (−0.3, 0.9)	1.8 (1.4, 2.3)*	1.5 (1.2, 1.9)*
Parent-rated prosocial behavior, mean (SD)	6.4 (2.4)	5.4 (2.4)	6.5 (2.1)	1.0 (0.3, 1.8)*	−0.1 (−0.7, 0.4)	−1.2 (−1.7, −0.7)*
Intermediate outcome						
Parent-rated yelling, %	43.6	68.8	31.6	−25.2 (−43.2, −7.2)*	12.0 (−2.1, 26.1)	37.2 (26.0, 48.4)*
Parent-rated slapping, %	6.8	15.2	4.1	−8.4 (−19.5, 2.7)	2.7 (−4.8, 10.2)	11.1 (2.9, 19.3)*

Note. Higher scores on measures of psychological well-being, self-esteem, and prosocial behavior indicate better psychosocial functioning. Higher scores on the other measures (depression, conduct problems) indicate worse psychosocial functioning. ADHD = attention-deficit/hyperactivity disorder; CI = confidence interval; SD = standard deviation.

* $p < .05$.

Table S3. ADHD symptoms and diagnosis at Wave 2

ADHD symptoms	ADHD diagnosis	
	No	Yes
No	2740	29
Yes	155	21

Note. ADHD = attention-deficit/hyperactivity disorder.

Table S4. Sample characteristics by ADHD symptoms and diagnosis groups

Characteristics	ADHD symptoms and ADHD diagnosis			Standardized difference, %		
	ADHD diagnosis group (n = 50)	No-ADHD diagnosis group (n = 155)	Control group (n = 2,740)	ADHD diagnosis vs. No-ADHD diagnosis	ADHD diagnosis vs. Control	No-ADHD diagnosis vs. Control
Sex, No. (%)						
Boys	39 (78.0)	108 (69.7)	1,403 (51.2)	19.0	58.4	38.5
Girls	11 (22.0)	47 (30.3)	1,337 (48.8)	-19.0	-58.4	-38.5
Age at 2nd wave, mean (SD), month	146.1 (4.6)	146.2 (3.7)	146 (3.6)	4.5	4.7	0.2
Mothers' age at 2nd wave, No. (%), years						
≤ 39	13 (26.0)	20 (12.9)	331 (12.1)	33.6	36.0	2.5
40–49	32 (64.0)	107 (69.0)	1,952 (71.2)	-10.7	-15.5	-4.8
≥ 50	2 (4.0)	20 (12.9)	235 (8.6)	-32.4	-18.9	14.0
Missing	3 (6.0)	8 (5.2)	222 (8.1)	3.7	-8.2	-11.8
Fathers' age at 2nd wave, No. (%), years						
≤ 39	8 (16.0)	14 (9.0)	175 (6.4)	21.2	30.9	9.9
40–49	24 (48.0)	92 (59.4)	1,591 (58.1)	-22.9	-20.3	2.6
≥ 50	10 (20.0)	32 (20.6)	585 (21.4)	-1.6	-3.3	-1.7
Missing	8 (16.0)	17 (11.0)	389 (14.2)	14.8	5.0	-9.7
Mothers' education level, No. (%), years						
≤ 12	13 (26.0)	27 (17.4)	446 (16.3)	20.9	24.0	3.1
13–15	26 (52.0)	70 (45.2)	1,193 (43.5)	13.7	17.0	3.3
≥ 16	11 (22.0)	53 (34.2)	1,083 (39.5)	-27.4	-38.7	-11.1
Missing	0 (0.0)	5 (3.2)	18 (0.7)	-25.8	-11.5	18.7
Fathers' education level, No. (%), years						
≤ 12	14 (28.0)	37 (23.9)	453 (16.5)	9.4	27.8	18.4
13–15	10 (20.0)	24 (15.5)	345 (12.6)	11.8	20.2	8.3
≥ 16	20 (40.0)	89 (57.4)	1,818 (66.3)	-35.4	-54.7	-18.5
Missing	6 (12.0)	5 (3.2)	124 (4.5)	33.5	27.4	-6.7
Annual family income, No. (%), million yen						
0.00–3.99	9 (18.0)	17 (11.0)	222 (8.1)	20.1	29.7	9.8
4.00–5.99	9 (18.0)	30 (19.4)	418 (15.3)	-3.5	7.4	10.9
6.00–7.99	16 (32.0)	37 (23.9)	452 (16.5)	18.2	36.8	18.5
8.00–9.99	6 (12.0)	19 (12.3)	482 (17.6)	-0.8	-15.8	-15.0
≥ 10	7 (14.0)	43 (27.7)	901 (32.9)	-34.3	-45.7	-11.2
Missing	3 (6.0)	9 (5.8)	265 (9.7)	0.8	-13.7	-14.5

Note. A larger absolute value of the standardized difference indicates a greater imbalance in the prevalence of a demographic variable between the two groups. ADHD = attention-deficit/hyperactivity disorder; SD = standard deviation.

Table S5. Outcome differences between ADHD symptoms and diagnosis groups at Wave 2 using imputed data

Outcome	Study group			Group difference (95% CI)		
	ADHD diagnosis group	No-ADHD diagnosis group	Control group	ADHD diagnosis vs. No-ADHD diagnosis	ADHD diagnosis vs. Control	No-ADHD diagnosis vs. Control
Binary outcome						
Self-rated self-harm behavior, %	21.8	15.1	10.9	6.7 (−7.7, 21.0)	10.9 (−2.4, 24.2)	4.2 (−1.9, 10.3)
Parent-rated self-harm behavior, %	8.3	4.1	1.2	4.2 (−4.2, 12.7)	7.1 (−0.7, 14.9)	2.9 (−0.3, 6.1)
Parent-rated school absenteeism, %	6.0	1.3	1.0	4.7 (−2.2, 11.5)	5.0 (−1.6, 11.6)	0.3 (−1.5, 2.2)
Continuous outcome						
Self-rated psychological well-being, mean (SD)	18.2 (5.3)	18.1 (5.4)	18.8 (4.7)	0.1 (−1.6, 1.7)	−0.7 (−2.1, 0.8)	−0.7 (−1.5, 0.1)
Self-rated self-esteem, mean (SD)	24.6 (4.5)	25.6 (4.3)	26.9 (4.6)	−1.0 (−2.6, 0.6)	−2.3 (−3.6, −0.9)*	−1.3 (−2.1, −0.5)*
Self-rated depression, mean (SD)	6.8 (6.5)	5.5 (5.5)	3.8 (4.4)	1.2 (−0.3, 2.8)	3.0 (1.6, 4.4)*	1.8 (1.0, 2.5)*
Parent-rated emotional symptoms, mean (SD)	2.8 (2.4)	2.3 (2.1)	1.2 (1.6)	0.5 (−0.0, 1.0)	1.6 (1.2, 2.1)*	1.1 (0.9, 1.4)*
Parent-rated conduct problems, mean (SD)	3.1 (2.2)	3.6 (2.0)	1.6 (1.4)	−0.6 (−1.0, −0.1)*	1.4 (1.0, 1.8)*	2.0 (1.8, 2.2)*
Parent-rated peer relationship problems, mean (SD)	3.3 (2.4)	2.6 (2.1)	1.4 (1.5)	0.7 (0.2, 1.2)*	1.8 (1.4, 2.3)*	1.2 (0.9, 1.4)*
Parent-rated prosocial behavior, mean (SD)	6.4 (2.4)	5.3 (2.2)	6.6 (2.1)	1.1 (0.4, 1.7)*	−0.2 (−0.8, 0.4)	−1.2 (−1.6, −0.9)*
Intermediate outcome						
Parent-rated yelling, %	43.6	64.7	30.8	−21.1 (−37.3, −5.0)*	12.8 (−1.3, 27.0)	34.0 (26.0, 42.0)*
Parent-rated slapping, %	6.8	15.9	3.7	−9.1 (−18.6, 0.4)	3.1 (−4.5, 10.6)	12.1 (6.3, 18.0)*

Note. Higher scores on measures of psychological well-being, self-esteem, and prosocial behavior indicate better psychosocial functioning. Higher scores on the other measures (depression, conduct problems) indicate worse psychosocial functioning. ADHD = attention-deficit/hyperactivity disorder; CI = confidence interval; SD = standard deviation.

* $p < .05$.

Table S6. Outcome differences between persistent ADHD symptoms and diagnosis groups using complete data

Outcome	Study group			Group difference (95% CI)		
	ADHD diagnosis group	No-ADHD diagnosis group	Control group	ADHD diagnosis vs. No-ADHD diagnosis	ADHD diagnosis vs. Control	No-ADHD diagnosis vs. Control
Binary outcome						
Self-rated self-harm behavior, %	22.5	14.5	10.7	8.0 (− 7.6, 23.6)	11.8 (− 3.8, 27.5)	3.9 (− 11.8, 19.5)
Parent-rated self-harm behavior, %	8.5	4.3	1.2	4.2 (− 5.2, 13.5)	7.3 (− 2.0, 16.6)	3.1 (− 6.2, 12.4)
Parent-rated school absenteeism, %	6.0	1.3	1.0	4.7 (− 2.4, 11.7)	5.0 (− 2.1, 12.1)	0.3 (− 6.7, 7.4)
Continuous outcome						
Self-rated psychological well-being, mean (SD)	18.2 (5.3)	18.1 (5.1)	18.8 (4.7)	0.1 (− 1.7, 1.8)	− 0.6 (− 2.0, 0.7)	− 0.7 (− 1.8, 0.4)
Self-rated self-esteem, mean (SD)	24.7 (4.4)	25.8 (4.5)	26.9 (4.6)	− 1.0 (− 2.8, 0.7)	− 2.1 (− 3.5, − 0.8)*	− 1.1 (− 2.2, 0.1)
Self-rated depression, mean (SD)	6.8 (6.7)	5.3 (5.4)	3.7 (4.4)	1.5 (− 0.2, 3.3)	3.1 (1.7, 4.5)*	1.6 (0.5, 2.7)*
Parent-rated emotional symptoms, mean (SD)	2.8 (2.4)	2.4 (2.2)	1.3 (1.6)	0.5 (− 0.1, 1.1)	1.6 (1.1, 2.0)*	1.1 (0.7, 1.5)*
Parent-rated conduct problems, mean (SD)	3.1 (2.2)	3.5 (2.0)	1.7 (1.4)	− 0.5 (− 1.0, 0.1)	1.4 (1.0, 1.8)*	1.8 (1.5, 2.2)*
Parent-rated peer relationship problems, mean (SD)	3.3 (2.4)	3.0 (2.5)	1.5 (1.5)	0.3 (− 0.3, 0.9)	1.8 (1.4, 2.3)*	1.5 (1.2, 1.9)*
Parent-rated prosocial behavior, mean (SD)	6.4 (2.4)	5.4 (2.4)	6.5 (2.1)	1.0 (0.3, 1.8)*	− 0.1 (− 0.7, 0.4)	− 1.2 (− 1.7, − 0.7)*
Intermediate outcome						
Parent-rated yelling, %	42.6	69.6	31.6	− 27.0 (− 44.8, − 9.2)*	11.0 (− 6.8, 28.8)	38.0 (20.2, 55.8)*
Parent-rated slapping, %	6.4	15.9	4.0	− 9.6 (− 20.7, 1.6)	2.4 (− 8.8, 13.5)	11.9 (0.8, 23.0)*

Note. Higher scores on measures of psychological well-being, self-esteem, and prosocial behavior indicate better psychosocial functioning. Higher scores on the other measures (depression, conduct problems) indicate worse psychosocial functioning. ADHD = attention-deficit/hyperactivity disorder; CI = confidence interval; SD = standard deviation.

* $p < .05$.

Table S7. Outcome differences between ADHD symptoms and diagnosis groups at Wave 2 using complete data

Outcome	Study group			Group difference (95% CI)		
	ADHD diagnosis group	No-ADHD diagnosis group	Control group	ADHD diagnosis vs. No-ADHD diagnosis	ADHD diagnosis vs. Control	No-ADHD diagnosis vs. Control
Binary outcome						
Self-rated self-harm behavior, %	22.5	15.2	10.5	7.3 (−7.0, 21.7)	12.0 (−2.3, 26.3)	4.6 (−9.7, 19.0)
Parent-rated self-harm behavior, %	8.5	4.1	1.2	4.4 (−4.2, 13.0)	7.4 (−1.2, 16.0)	3.0 (−5.6, 11.6)
Parent-rated school absenteeism, %	6.0	1.3	1.0	4.7 (−2.1, 11.5)	5.0 (−1.8, 11.8)	0.3 (−6.5, 7.1)
Continuous outcome						
Self-rated psychological well-being, mean (SD)	18.2 (5.3)	18.2 (5.4)	18.9 (4.7)	0.0 (−1.5, 1.6)	−0.7 (−2.1, 0.7)	−0.7 (−1.5, 0.1)
Self-rated self-esteem, mean (SD)	24.7 (4.4)	25.8 (4.2)	26.9 (4.6)	−1.1 (−2.7, 0.4)	−2.2 (−3.5, −0.8)*	−1.1 (−1.9, −0.3)*
Self-rated depression, mean (SD)	6.8 (6.7)	5.3 (5.4)	3.7 (4.3)	1.5 (−0.1, 3.1)	3.2 (1.8, 4.5)*	1.7 (0.9, 2.4)*
Parent-rated emotional symptoms, mean (SD)	2.8 (2.4)	2.3 (2.1)	1.2 (1.6)	0.5 (−0.0, 1.0)	1.6 (1.2, 2.1)*	1.1 (0.9, 1.4)*
Parent-rated conduct problems, mean (SD)	3.1 (2.2)	3.6 (2.0)	1.6 (1.4)	−0.5 (−1.0, −0.1)*	1.4 (1.0, 1.9)*	2.0 (1.8, 2.2)*
Parent-rated peer relationship problems, mean (SD)	3.3 (2.4)	2.6 (2.1)	1.4 (1.5)	0.7 (0.2, 1.2)*	1.9 (1.4, 2.3)*	1.2 (0.9, 1.4)*
Parent-rated prosocial behavior, mean (SD)	6.4 (2.4)	5.3 (2.2)	6.6 (2.1)	1.1 (0.4, 1.7)*	−0.2 (−0.8, 0.4)	−1.2 (−1.6, −0.9)*
Intermediate outcome						
Parent-rated yelling, %	42.6	65.1	30.6	−22.5 (−38.6, −6.4)*	11.9 (−4.2, 28.0)	34.4 (18.3, 50.5)*
Parent-rated slapping, %	6.4	16.4	3.6	−10.1 (−19.3, −0.8)*	2.7 (−6.5, 12.0)	12.8 (3.6, 22.0)*

Note. Higher scores on measures of psychological well-being, self-esteem, and prosocial behavior indicate better psychosocial functioning. Higher scores on the other measures (depression, conduct problems) indicate worse psychosocial functioning. ADHD = attention-deficit/hyperactivity disorder; CI = confidence interval; SD = standard deviation.

* $p < .05$.