Supplementary material

Figure S1 recruitment flow diagram

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                    ┌─────────────────────────────────┐
                    │ 12,398 reception class children │
                    │  in target state school         │
                    │  population (263 schools)       │
                    └─────────────────────────────────┘
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12,398 reception class children in target state school population (263 schools)

8340 children in sample (176 schools; 67%)

42 schools opted out
45 schools no reply
(4,058 children)

20 parental opt-outs

15 schools did not complete questionnaire (701 children)
Potentially incomplete questionnaires in participating schools (352 children)

Online questionnaire completed for 7267 children
(161 schools, ~264 teachers)

31 children attending special school excluded

777 EAL children excluded

5499 Typical language (TL)

960 Low language (LL)

636 children selected for follow-up in Year 1

	TL	LL
Selected	233	403
Participated	200	329

107 children did not participate

	TL	LL
Opt-outs	16	24
No-replies	7	35
No longer in Surrey	8	13
Away on day	2	2

529 children in 150 schools participated in Year 1 follow-up (83%)

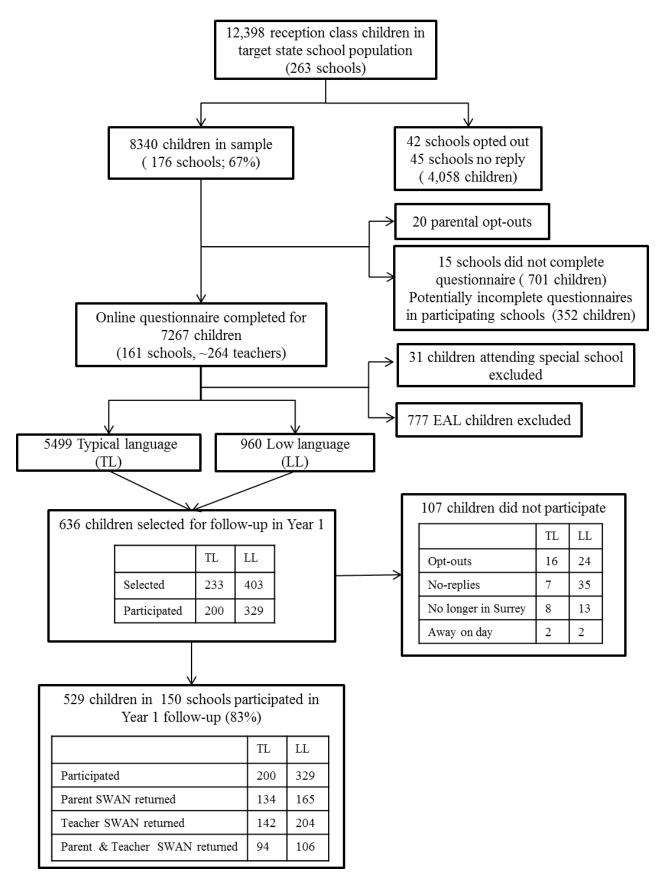|	TL	LL
Participated	200	329
Parent SWAN returned	134	165
Teacher SWAN returned	142	204
Parent & Teacher SWAN returned	94	106

Table S1 Differences between children included in the current sample (i.e. those with SWAN questionnaire data available from both parents and teacher) and those who are not included in the current sample

	Current sample	Not in Current sample	F Values	*p* Values
N	200	329		
Age	71.88 (4.72)	71.48 (4.71)	F(1,528)=0.88	p=.35
% male	49.00	54.71	Chi2(1)=1.63	p=.20
SES (IDACI postcode)[1]	22871.81 (7590.24)	20447.95 (7724.16)	F(1,528)=12.52	p<.001
CCC-S (raw score/max 39)	15.62 (12.02)	18.72 (11.06)	F(1,528)=8.78	p<.01
CCC-S (z-score)	.59 (1.17)	.92(.96)	F(1,528)=11.05	p<.001
% low language (CCC-S)	53.00	67.78	Chi2(1)=11.56	p<.01
SDQ total	7.85 (6.21)	9.03 (6.75)	F(1,528)=4.26	p<.05
% abnormal behaviour (SDQ)	14.00	17.33	Chi2(1)=1.02	p=.31
% known diagnosis	9.00	6.69	Chi2(1)=0.95	p=.33
EYFSP total	32.07 (9.25)	30.26 (8.16)	F(1,528)=5.18	p<.05
% not achieving GLD	60.50	68.39	Chi2(1)=3.42	p=.06
Language composite (z-score)[2]	-.23 (1.13)	-.71 (.99)	F(1,505)=23.24	p<.001

Note: [1]*Income Deprivation Affecting Children Index (IDACI) rank scores were obtained from home post-codes and provided a measure of neighbourhood deprivation, reflecting family receipt of means tested benefits.*[48] *IDACI scores in this sample ranged from 4686 (most deprived) to 32471 (most affluent);* [2]*Data only available for those who completed all 6 core language tasks: N in current sample = 192, N not in current sample = 314.*

Table S2 mean (SD) parent and teacher ratings on the SWAN for the whole sample and by language group

	N	Parent	Teacher
Whole sample			
SWAN Inattention	200	38.51 (9.45)	35.66 (13.31)
SWAN Hyperactivity	200	38.64 (9.45)	39.04 (12.23)
SWAN total	200	77.15 (17.95)	74.69 (24.50)
Low language (LL)			
SWAN Inattention	106	34.87 (9.03)	28.86 (11.80)
SWAN Hyperactivity	106	36.26 (9.42)	34.10 (11.23)
SWAN total	106	71.13 (17.50)	62.96 (21.65)
Typical language (TL)			
SWAN Inattention	94	42.62 (8.18)	43.32 (10.47)
SWAN Hyperactivity	94	41.31 (8.80)	44.60 (10.90)
SWAN total	94	83.93 (15.99)	87.91 (20.55)

Figure S2: Marginal means of SWAN total score as rated by parent (dark grey bars) and teachers (light grey bars) for typical language (TL) and low language (LL) groups; error bars are 95% CIs.
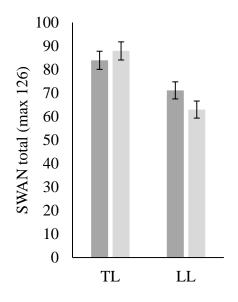

Figure S2 shows that overall, there was a significant effect of language group indicating that children with LL were rated as exhibiting more ADHD symptoms than children with TL (SWAN total score: z=-7.91, p<.001). The effect of rater was not significant (SWAN total score: z=-1.64, p=.10). However, there was also a significant respondent x language group interaction (SWAN total score: z=-4.77, p<.001) indicating that the difference between parent and teacher ratings on the SWAN total score was greater for children with LL than for children with TL. Simple effects revealed that although both parents and teachers rated children with LL as having increased attention/behaviour deficits relative to TL peers (z=-4.73, p<0.001 and z=-9.22, p<0.001 respectively), teacher ratings of the LL group were significantly worse than parent ratings (z=-4.67, p<.001). In contrast, teacher ratings of the TL group were better than parents (z=2.15, p<.05), thought this effect was somewhat smaller as evident by overlapping CIs.

Table S3 rates of potential ADHD subtype identification by parents vs. teachers for the whole sample and by language group.

	Teacher														
	Whole sample					LL					TL				
Parent	No ADHD	I	H/I	C	Total	No ADHD	I	H/I	C	Total	No ADHD	I	H/I	C	Total
No ADHD	156	23	3	5	187	67	21	1	5	94	89	2	2	0	93
ADHD type															
Inattentive (I)[a]	3	1	0	0	4	3	1	0	0	4	0	0	0	0	0
Hyperactive/Impulsive (H/I)[b]	1	0	0	2	3	1	0	0	2	3	0	0	0	0	0
Combined (C)[c]	1	0	0	5	6	1	0	0	4	5	0	0	0	1	1
Total	161	24	3	12	200	72	22	1	11	106	89	2	2	1	94

Notes: [a] ≥ 6 I symptoms and <6 H/I symptoms; [b] ≥ 6 H/I symptoms and <6 I symptoms; [c] ≥ 6 I symptoms and ≥ 6 H/I symptoms