

Supplementary Data

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Table S1. Comparison of earlier recognised ADHD vs later recognised ADHD.

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.20	1.04	1.38	0.013	0.019
Parental Depression/Anxiety	0.69	0.46	1.04	0.077	0.102
Maternal Higher Education	0.93	0.57	1.51	0.757	0.757
Autism Diagnosis	0.71	0.48	1.07	0.099	0.122
Hobby Frequency	0.85	0.58	1.25	0.411	0.469
Physical Activity	1.05	0.91	1.20	0.495	0.528
Emotional Dysregulation Age 5	0.27	0.18	0.41	6.00E-10	9.10E-09
Emotional Dysregulation Age 7	0.29	0.19	0.44	1.17E-08	9.39E-08
Prosocial Age 5	1.20	1.10	1.31	2.75E-05	6.29E-05
Prosocial Age 7	1.20	1.10	1.32	7.39E-05	1.48E-04
Peer Problems Age 5	0.77	0.70	0.85	2.00E-07	9.42E-07
Peer Problems Age 7	0.86	0.79	0.93	3.58E-04	0.001
Conduct Problems Age 5	0.78	0.71	0.86	2.35E-07	9.42E-07

Conduct Problems Age 7	0.81	0.74	0.88	2.00E-06	6.40E-06
Emotional Problems Age 5	0.84	0.76	0.92	1.20E-04	2.13E-04
Emotional Problems Age 7	0.84	0.78	0.91	1.96E-05	5.22E-05

Variables were explored to understand their relationship with the timing of ADHD diagnosis. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where earlier recognised ADHD is coded as 0, and later recognised ADHD is coded as 1.

Table S2. Comparison of those with recognised ADHD vs those with unrecognised ADHD.

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.31	1.19	1.43	9.40E-09	1.88E-08
Parental Depression/Anxiety	0.47	0.37	0.59	1.86E-10	4.97E-10
Maternal Higher Education	1.32	1.00	1.75	0.053	0.054
Autism Diagnosis	0.11	0.09	0.15	3.10E-55	4.95E-54
Hobby Frequency	0.80	0.64	1.00	0.054	0.054
Physical Activity	1.10	1.00	1.20	0.042	0.048
Emotional Dysregulation Age 5	0.58	0.46	0.74	1.41E-05	2.25E-05
Emotional Dysregulation Age 7	0.40	0.31	0.52	9.07E-12	3.63E-11
Prosocial Age 5	1.09	1.04	1.15	0.001	0.001
Prosocial Age 7	1.13	1.07	1.19	8.17E-06	1.45E-05
Peer Problems Age 5	0.83	0.79	0.88	1.34E-10	4.30E-10
Peer Problems Age 7	0.81	0.77	0.85	4.33E-15	3.46E-14

Conduct Problems Age 5	0.84	0.79	0.89	4.39E-09	1.00E-08
Conduct Problems Age 7	0.81	0.76	0.85	9.25E-14	4.94E-13
Emotional Problems Age 5	0.93	0.88	0.98	0.008	0.010
Emotional Problems Age 7	0.91	0.87	0.95	0.000	1.69E-04

Variables were explored to understand their relationship with the likelihood of ADHD diagnosis. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where recognised ADHD is coded as 0, and unrecognised ADHD is coded as 1.

Table S3. Comparisons of females with recognised ADHD vs females with unrecognised ADHD.

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.16	0.95	1.43	0.148	0.236
Parental Depression/Anxiety	0.60	0.37	0.97	0.036	0.115
Maternal Higher Education	0.92	0.54	1.58	0.771	0.786
Autism Diagnosis	0.16	0.09	0.28	8.93E-10	1.43E-08
Hobby Frequency	0.55	0.33	0.92	0.021	0.086
Physical Activity	1.16	0.95	1.42	0.135	0.236
Emotional Dysregulation Age 5	1.15	0.70	1.88	0.585	0.669
Emotional Dysregulation Age 7	0.70	0.42	1.17	0.174	0.237
Prosocial Age 5	1.06	0.94	1.19	0.327	0.402
Prosocial Age 7	1.12	0.99	1.25	0.064	0.172
Peer Problems Age 5	0.86	0.76	0.97	0.014	0.076
Peer Problems Age 7	0.81	0.73	0.91	2.74E-04	0.002

Conduct Problems Age 5	0.91	0.80	1.03	0.128	0.236
Conduct Problems Age 7	0.90	0.80	1.02	0.091	0.208
Emotional Problems Age 5	1.02	0.90	1.14	0.786	0.786
Emotional Problems Age 7	0.94	0.85	1.03	0.177	0.237

Variables were explored to understand their relationship with the likelihood of ADHD diagnosis, split by sex to allow analysis in females specifically. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where recognised ADHD is coded as 0, and unrecognised ADHD is coded as 1.

Table S4. Comparisons of males with recognised ADHD vs males with unrecognised ADHD.

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.30	1.17	1.45	6.20E-07	1.24E-06
Parental Depression/Anxiety	0.41	0.31	0.54	2.67E-10	8.56E-10
Maternal Higher Education	1.54	1.10	2.15	0.011	0.0136
Autism Diagnosis	0.12	0.09	0.16	5.91E-41	9.46E-40
Hobby Frequency	0.77	0.59	1.00	0.050	0.0538
Physical Activity	1.10	1.00	1.22	0.061	0.0607
Emotional Dysregulation Age 5	0.50	0.38	0.67	2.92E-06	5.20E-06
Emotional Dysregulation Age 7	0.35	0.26	0.48	6.52E-11	2.61E-10
Prosocial Age 5	1.07	1.01	1.14	0.024	0.0280
Prosocial Age 7	1.09	1.03	1.16	0.004	0.0056
Peer Problems Age 5	0.83	0.78	0.89	4.67E-08	1.25E-07
Peer Problems Age 7	0.81	0.76	0.86	1.40E-11	7.49E-11
Conduct Problems Age 5	0.83	0.78	0.89	1.48E-07	3.39E-07

Conduct Problems Age 7	0.79	0.74	0.85	4.52E-12	3.62E-11
Emotional Problems Age 5	0.91	0.85	0.96	0.001	0.0020
Emotional Problems Age 7	0.89	0.85	0.95	9.21E-05	0.0001

Variables were explored to understand their relationship with the likelihood of ADHD diagnosis, split by sex to allow analysis in males specifically. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where recognised ADHD is coded as 0, and unrecognised ADHD is coded as 1.

Table S5. Interaction analysis using the results of the recognised males vs unrecognised males, and recognised females vs unrecognised females.

Variable	OR	Lower CI	Upper CI	p-value
Cognitive Ability	0.90	0.72	1.13	0.368
Parental Depression/Anxiety	1.45	0.84	2.52	0.183
Maternal Higher Education	0.59	0.32	1.12	0.108
Autism Diagnosis	1.32	0.68	2.58	0.416
Hobby Frequency	0.72	0.41	1.28	0.262
Physical Activity	1.05	0.84	1.31	0.658
Emotional Dysregulation Age 5	2.27	1.28	4.02	0.005
Emotional Dysregulation Age 7	1.97	1.08	3.58	0.027
Prosocial Age 5	0.99	0.87	1.13	0.849
Prosocial Age 7	1.02	0.89	1.16	0.780
Peer Problems Age 5	1.03	0.90	1.18	0.646
Peer Problems Age 7	1.02	0.90	1.16	0.784

Conduct Problems Age 5	1.09	0.94	1.26	0.262
Conduct Problems Age 7	1.14	1.00	1.31	0.054
Emotional Problems Age 5	1.12	0.98	1.28	0.085
Emotional Problems Age 7	1.05	0.93	1.17	0.430

Variables were explored to understand their relationship with the likelihood of ADHD diagnosis, here the results of the male and female split analysis were compared in order to analyse differences and similarities. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where recognised ADHD males vs unrecognised ADHD males is coded as 0, and recognised ADHD females vs unrecognised ADHD females is coded as 1.

Table S6. Comparison of those with recognised ADHD vs those with unrecognised ADHD and impact.

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.02	0.90	1.16	0.729	0.922
Parental Depression/Anxiety	0.80	0.56	1.13	0.208	0.310
Maternal Higher Education	1.02	0.67	1.57	0.912	0.930
Autism Diagnosis	0.34	0.24	0.49	6.43E-09	1.03E-07
Hobby Frequency	0.74	0.53	1.05	0.088	0.236
Physical Activity	1.01	0.89	1.14	0.887	0.930
Emotional Dysregulation Age 5	1.48	1.03	2.12	0.035	0.112
Emotional Dysregulation Age 7	1.59	1.09	2.33	0.017	0.081
Prosocial Age 5	0.96	0.89	1.03	0.213	0.310
Prosocial Age 7	0.92	0.85	0.99	0.020	0.081
Peer Problems Age 5	1.05	0.97	1.13	0.209	0.310
Peer Problems Age 7	1.06	0.98	1.13	0.132	0.263
Conduct Problems Age 5	1.00	0.92	1.08	0.930	0.930

Conduct Problems Age 7	1.01	0.94	1.09	0.749	0.922
Emotional Problems Age 5	1.06	0.98	1.14	0.130	0.263
Emotional Problems Age 7	1.09	1.02	1.16	0.014	0.081

Variables were explored to understand their relationship with the likelihood of ADHD diagnosis. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where recognised ADHD is coded as 0, and unrecognised ADHD and impact is coded as 1.

Table S7. Sensitivity test with those with missing ADHD data at and 5 and 7 removed, before then comparing those with earlier recognised ADHD vs later recognised ADHD.

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.21	1.05	1.40	0.009	0.013
Parental Depression/Anxiety	0.63	0.42	0.95	0.027	0.036
Maternal Higher Education	0.93	0.57	1.52	0.776	0.776
Autism Diagnosis	0.66	0.44	0.98	0.040	0.050
Hobby Frequency	0.83	0.56	1.23	0.359	0.410
Physical Activity	1.05	0.92	1.21	0.472	0.503
Emotional Dysregulation Age 5	0.27	0.18	0.41	6.00E-10	9.10E-09
Emotional Dysregulation Age 7	0.28	0.18	0.44	9.90E-09	7.89E-08
Prosocial Age 5	1.20	1.10	1.31	2.75E-05	6.29E-05
Prosocial Age 7	1.20	1.10	1.32	6.55E-05	1.31E-04
Peer Problems Age 5	0.77	0.70	0.85	2.00E-07	9.42E-07
Peer Problems Age 7	0.86	0.79	0.93	2.99E-04	4.79E-04

Conduct Problems Age 5	0.78	0.71	0.86	2.35E-07	9.42E-07
Conduct Problems Age 7	0.80	0.74	0.88	1.50E-06	4.79E-06
Emotional Problems Age 5	0.84	0.76	0.92	1.20E-04	2.13E-04
Emotional Problems Age 7	0.84	0.78	0.91	1.92E-05	5.13E-05

A sensitivity test to understand if missing data had a significant impact on the results. With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR =odds ratio, CI = confidence interval. Where earlier recognised ADHD is coded as 0, and later recognised ADHD is coded as 1.

Table S8. Sensitivity test where the earlier vs later recognised ADHD groups were redefined, where the groups were earlier (age 5, 7 and 11) (coded as 0) vs later (age 14) (coded as 1).

Variable	OR	Lower CI	Upper CI	p-value	Adjusted p-value
Cognitive Ability	1.17	0.97	1.42	0.102	0.136
Parental Depression/Anxiety	0.90	0.54	1.49	0.673	0.828
Maternal Higher Education	1.02	0.56	1.87	0.943	0.943
Autism Diagnosis	0.45	0.28	0.74	0.002	0.007
Hobby Frequency	0.95	0.59	1.55	0.847	0.903
Physical Activity	1.02	0.86	1.21	0.829	0.903
Emotional Dysregulation Age 5	0.39	0.24	0.64	1.68E-04	0.001
Emotional Dysregulation Age 7	0.38	0.24	0.61	7.56E-05	0.001
Prosocial Age 7	1.18	1.04	1.33	0.009	0.015
Prosocial Age 5	1.18	1.05	1.33	0.007	0.014
Peer Problems Age 5	0.79	0.69	0.90	0.001	0.003
Peer Problems Age 7	0.86	0.77	0.96	0.007	0.014

Conduct Problems Age 5	0.88	0.78	0.99	0.029	0.042
Conduct Problems Age 7	0.84	0.75	0.94	0.003	0.009
Emotional Problems Age 5	0.85	0.74	0.96	0.012	0.018
Emotional Problems Age 7	0.84	0.76	0.94	0.002	0.007

A sensitivity test to understand if the definition of the earlier and later recognised ADHD groups had a significant impact on the results.

With exact age as a covariate, and after false discovery rate (FDR) correction for multiple comparisons. OR = odds ratio, CI = confidence interval. Where earlier recognised ADHD is coded as 0, and later recognised ADHD is coded as 1.

