Supplement Online Content

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Figure S10. Associations between 24-hour movement guidelines adherence and health indicators in children with and without DD

Figure S11. Associations between 24-hour movement guidelines adherence and health indicators in children with and without SD

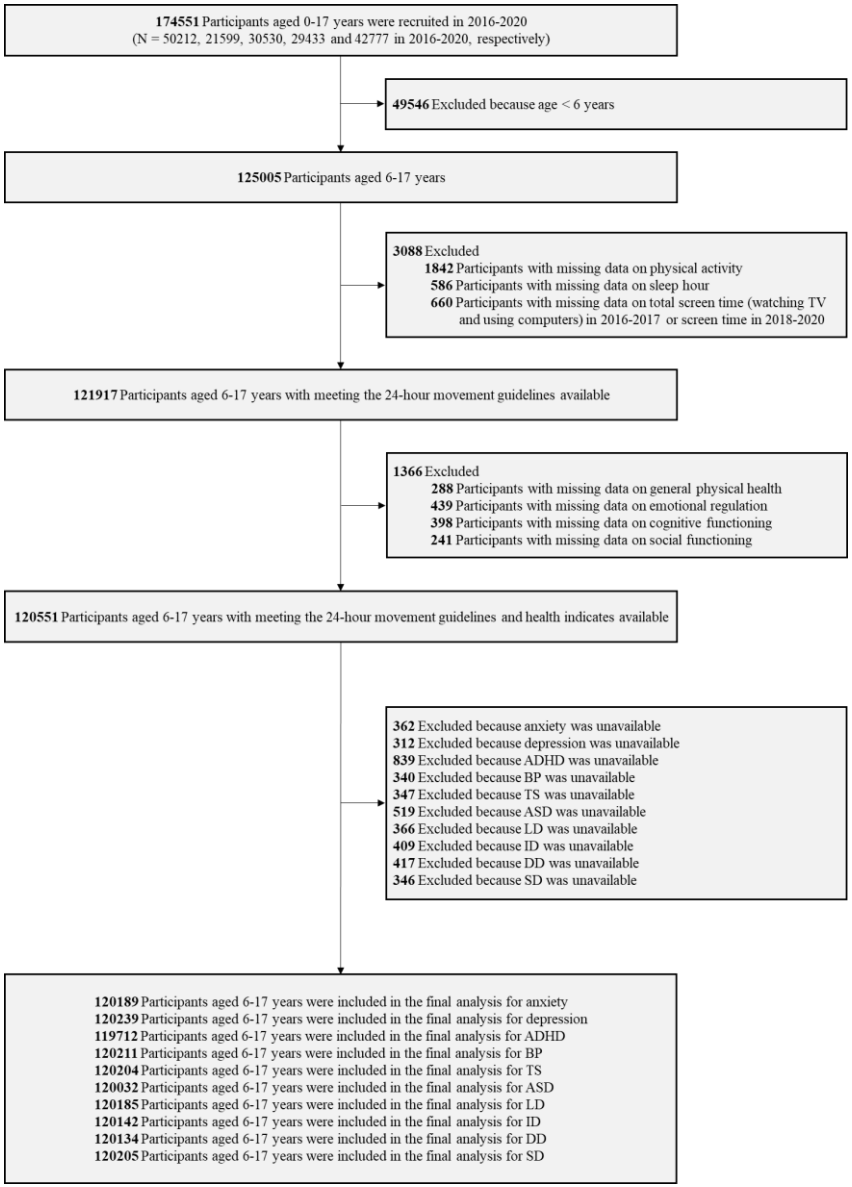

Figure S1. Flowchart with unweighted survey sample sizes for children aged 6 – 17 years, National Survey of Children's Health, 2016 – 2020

Abbreviation: MBDDs = Mental, Behavioral, and Developmental Disorders; EDs = Emotional Disorders; BDs = Behavioral Disorders; ADHD = Attention-Deficit/Hyperactivity Disorder; BP = Behavior/conduct Problem; TS = Tourette Syndrome; DDs = Developmental Disorders; ASD = Autism Spectrum Disorder; LD = Learning Disability; ID = Intellectual Disability; DD = Developmental Delay; SD = Speech or other language Disorder.

Table S1. 24-hour movement guidelines adherence and health indicators in children with and without anxiety

Variable	With Anxiety (N = 16956)		Without Anxiety (N = 103233)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					**< 0.001**
Meeting guideline	2496	16.18 (15.02 – 17.40)	22784	22.88 (22.29 – 23.48)	
Not meeting guideline	14460	83.82 (82.60 – 84.98)	80449	77.12 (76.52 – 77.71)	
ST					**< 0.001**
Meeting guideline	5476	33.69 (32.16 – 35.26)	45526	44.85 (44.16 – 45.55)	
Not meeting guideline	11480	66.31 (64.74 – 67.84)	57707	55.15 (54.45 – 55.84)	
SL					**< 0.001**
Meeting guideline	10681	58.41 (56.70 – 60.10)	71826	65.80 (65.10 – 66.48)	
Not meeting guideline	6275	41.59 (39.90 – 43.30)	31407	34.20 (33.52 – 34.90)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	16112	94.19 (93.40 – 94.88)	102375	98.70 (98.47 – 98.89)	
Fair/Poor	844	5.81 (5.12 – 6.60)	858	1.30 (1.11 – 1.53)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	14728	85.20 (83.88 – 86.43)	100952	97.29 (97.04 – 97.52)	
Never	2228	14.80 (13.57 – 16.12)	2281	2.71 (2.48 – 2.96)	
Cognitive functioning					**< 0.001**
No difficulty	10651	60.80 (59.13 – 62.45)	97098	93.84 (93.50 – 94.17)	
Serious difficulty	6305	39.20 (37.55 – 40.87)	6135	6.16 (5.83 – 6.50)	
Social functioning					**< 0.001**
No difficulty	7168	42.72 (41.07 – 44.39)	83981	82.73 (82.21 – 83.24)	
A litter difficulty/A lot of difficulty	9788	57.28 (55.61 – 58.93)	19252	17.27 (16.76 – 17.79)	

Abbreviation: PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S2. 24-hour movement guidelines adherence and health indicators in children with and without depression

Variable	With Depression (N = 8281)		Without Depression (N = 111958)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					**< 0.001**
Meeting guideline	871	13.91 (12.02 – 16.03)	24436	22.64 (22.08 – 23.21)	
Not meeting guideline	7410	86.09 (83.97 – 87.98)	87522	77.36 (76.79 – 77.92)	
ST					**< 0.001**
Meeting guideline	1919	25.74 (23.46 – 28.17)	49084	44.65 (43.98 – 45.32)	
Not meeting guideline	6362	74.26 (71.83 – 76.54)	62874	55.35 (54.68 – 56.02)	
SL					**< 0.001**
Meeting guideline	4806	52.70 (50.17 – 55.22)	77741	65.60 (64.93 – 66.26)	
Not meeting guideline	3475	47.30 (44.78 – 49.83)	34217	34.40 (33.74 – 35.07)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	7666	91.02 (89.56 – 92.30)	110873	98.60 (98.38 – 98.79)	
Fair/Poor	615	8.98 (7.70 – 10.44)	1085	1.40 (1.21 – 1.62)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	7024	82.71 (80.80 – 84.47)	108707	96.68 (96.41 – 96.92)	
Never	1257	17.29 (15.53 – 19.20)	3251	3.32 (3.08 – 3.59)	
Cognitive functioning					**< 0.001**
No difficulty	4708	55.05 (52.58 – 57.50)	103082	92.11 (91.75 – 92.46)	
Serious difficulty	3573	44.95 (42.50 – 47.42)	8876	7.89 (7.54 – 8.25)	
Social functioning					**< 0.001**
No difficulty	2815	35.97 (33.48 – 38.55)	88366	80.63 (80.11 – 81.15)	
A litter difficulty/A lot of difficulty	5466	64.03 (61.45 – 66.52)	23592	19.37 (18.85 – 19.89)	

Abbreviation: PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S3. 24-hour movement guidelines adherence and health indicators in children with and without ADHD

Variable	With ADHD (N = 16028)		Without ADHD (N = 103684)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					0.165
Meeting guideline	3108	21.22 (19.91 – 22.59)	22074	22.25 (21.67 – 22.85)	
Not meeting guideline	12920	78.78 (77.41 – 80.09)	81610	77.75 (77.15 – 78.33)	
ST					**< 0.001**
Meeting guideline	5585	35.81 (34.28 – 37.38)	45185	44.66 (43.95 – 45.36)	
Not meeting guideline	10443	64.19 (62.62 – 65.72)	58499	55.34 (54.64 – 56.05)	
SL					**< 0.001**
Meeting guideline	9977	57.62 (55.96 – 59.27)	72271	66.00 (65.30 – 66.69)	
Not meeting guideline	6051	42.38 (40.73 – 44.04)	31413	34.00 (33.31 – 34.70)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	15470	95.37 (94.37 – 96.20)	102557	98.59 (98.38 – 98.77)	
Fair/Poor	558	4.63 (3.80 – 5.63)	1127	1.41 (1.23 – 1.62)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	13826	84.62 (83.30 – 85.86)	101395	97.40 (97.16 – 97.63)	
Never	2202	15.38 (14.14 – 16.70)	2289	2.60 (2.37 – 2.84)	
Cognitive functioning					**< 0.001**
No difficulty	7991	48.83 (47.18 – 50.49)	99324	95.53 (95.21 – 95.82)	
Serious difficulty	8037	51.17 (49.51 – 52.82)	4360	4.47 (4.18 – 4.79)	
Social functioning					**< 0.001**
No difficulty	7313	46.89 (45.25 – 48.54)	83453	82.32 (81.79 – 82.84)	
A litter difficulty/A lot of difficulty	8715	53.11 (51.46 – 54.75)	20231	17.68 (17.16 – 18.21)	

Abbreviation: ADHD = Attention-Deficit/Hyperactivity Disorder; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S4. 24-hour movement guidelines adherence and health indicators in children with and without BP

Variable	With BP (N = 12426)		Without BP (N = 107785)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					0.846
Meeting guideline	2450	22.32 (20.79 – 23.92)	22831	22.15 (21.58 – 22.74)	
Not meeting guideline	9976	77.68 (76.08 – 79.21)	84954	77.85 (77.26 – 78.42)	
ST					**< 0.001**
Meeting guideline	4356	35.25 (33.49 – 37.05)	46629	44.50 (43.81 – 45.19)	
Not meeting guideline	8070	64.75 (62.95 – 66.51)	61156	55.50 (54.81 – 56.19)	
SL					**< 0.001**
Meeting guideline	7621	55.17 (53.21 – 57.12)	74913	66.02 (65.33 – 66.69)	
Not meeting guideline	4805	44.83 (42.88 – 46.79)	32872	33.98 (33.31 – 34.67)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	11782	93.55 (92.33 – 94.58)	106732	98.70 (98.50 – 98.88)	
Fair/Poor	644	6.45 (5.42 – 7.67)	1053	1.30 (1.12 – 1.50)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	9858	77.53 (75.88 – 79.10)	105847	97.97 (97.74 – 98.17)	
Never	2568	22.47 (20.90 – 24.12)	1938	2.03 (1.83 – 2.26)	
Cognitive functioning					**< 0.001**
No difficulty	5721	46.91 (44.99 – 48.85)	102063	94.89 (94.58 – 95.18)	
Serious difficulty	6705	53.09 (51.15 – 55.01)	5722	5.11 (4.82 – 5.42)	
Social functioning					**< 0.001**
No difficulty	4191	37.23 (35.38 – 39.13)	86960	82.71 (82.20 – 83.22)	
A litter difficulty/A lot of difficulty	8235	62.77 (60.87 – 64.62)	20825	17.29 (16.78 – 17.80)	

Abbreviation: BP = Behavior/conduct Problem; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S5. 24-hour movement guidelines adherence and health indicators in children with and without TS

Variable	With TS (N = 427)		Without TS (N = 119777)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					0.638
Meeting guideline	86	24.13 (16.83 – 33.32)	25200	22.16 (21.62 – 22.71)	
Not meeting guideline	341	75.87 (66.68 – 83.17)	94577	77.84 (77.29 – 78.38)	
ST					0.079
Meeting guideline	136	33.78 (23.20 – 46.27)	50858	43.65 (43.00 – 44.30)	
Not meeting guideline	291	66.22 (53.73 – 76.80)	68919	56.35 (55.70 – 57.00)	
SL					0.955
Meeting guideline	280	65.16 (55.53 – 73.70)	82232	64.90 (64.25 – 65.54)	
Not meeting guideline	147	34.84 (26.30 – 44.47)	37545	35.10 (34.46 – 35.75)	
Health indicators					
General physical health					**0.019**
Excellent/Very good/good	405	93.78 (88.77 – 96.64)	118102	98.20 (97.98 – 98.39)	
Fair/Poor	22	6.22 (3.36 – 11.23)	1675	1.80 (1.61 – 2.02)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	372	86.65 (80.48 – 91.09)	115326	95.95 (95.68 – 96.21)	
Never	55	13.35 (8.91 – 19.52)	4451	4.05 (3.79 – 4.32)	
Cognitive functioning					**< 0.001**
No difficulty	245	59.14 (49.25 – 68.35)	107530	90.17 (89.79 – 90.53)	
Serious difficulty	182	40.86 (31.65 – 50.75)	12247	9.83 (9.47 – 10.21)	
Social functioning					**< 0.001**
No difficulty	175	50.61 (40.03 – 61.13)	90991	78.26 (77.73 – 78.78)	
A litter difficulty/A lot of difficulty	252	49.39 (38.87 – 59.97)	28786	21.74 (21.22 – 22.27)	

Abbreviation: TS = Tourette Syndrome; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S6. 24-hour movement guidelines adherence and health indicators in children with and without ASD

Variable	With ASD (N = 4043)		Without ASD (N = 115989)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					**< 0.001**
Meeting guideline	612	16.98 (14.19 – 20.19)	24630	22.31 (21.76 – 22.87)	
Not meeting guideline	3431	83.02 (79.81 – 85.81)	91359	77.69 (77.13 – 78.24)	
ST					**< 0.001**
Meeting guideline	1313	30.88 (27.74 – 34.21)	49597	43.98 (43.33 – 44.64)	
Not meeting guideline	2730	69.12 (65.79 – 72.26)	66392	56.02 (55.36 – 56.67)	
SL					**0.002**
Meeting guideline	2550	58.88 (54.92 – 62.72)	79863	65.15 (64.50 – 65.80)	
Not meeting guideline	1493	41.12 (37.28 – 45.08)	36126	34.85 (34.20 – 35.50)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	3764	92.56 (90.77 – 94.02)	114578	98.41 (98.19 – 98.60)	
Fair/Poor	279	7.44 (5.98 – 9.23)	1411	1.59 (1.40 – 1.81)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	3121	75.89 (72.41 – 79.05)	112406	96.58 (96.33 – 96.82)	
Never	922	24.11 (20.95 – 27.59)	3583	3.42 (3.18 – 3.67)	
Cognitive functioning					**< 0.001**
No difficulty	1460	33.85 (30.48 – 37.40)	106143	91.97 (91.65 – 92.28)	
Serious difficulty	2583	66.15 (62.60 – 69.52)	9846	8.03 (7.72 – 8.35)	
Social functioning					**< 0.001**
No difficulty	541	14.34 (12.26 – 16.71)	90476	80.30 (79.80 – 80.79)	
A litter difficulty/A lot of difficulty	3502	85.66 (83.29 – 87.74)	25513	19.70 (19.21 – 20.20)	

Abbreviation: ASD = Autism Spectrum Disorder; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S7. 24-hour movement guidelines adherence and health indicators in children with and without LD

Variable	With LD (N = 10783)		Without LD (N = 109402)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					0.393
Meeting guideline	2144	21.43 (19.71 – 23.26)	23139	22.24 (21.67 – 22.82)	
Not meeting guideline	8639	78.57 (76.74 – 80.29)	86263	77.76 (77.18 – 78.33)	
ST					**< 0.001**
Meeting guideline	3890	36.64 (34.66 – 38.67)	47071	44.24 (43.56 – 44.92)	
Not meeting guideline	6893	63.36 (61.33 – 65.34)	62331	55.76 (55.08 – 56.44)	
SL					**< 0.001**
Meeting guideline	6869	59.57 (57.40 – 61.71)	75649	65.43 (64.76 – 66.11)	
Not meeting guideline	3914	40.43 (38.29 – 42.60)	33753	34.57 (33.89 – 35.24)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	10100	92.41 (91.23 – 93.44)	108391	98.74 (98.53 – 98.93)	
Fair/Poor	683	7.59 (6.56 – 8.77)	1011	1.26 (1.07 – 1.47)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	9066	82.50 (80.75 – 84.12)	106620	97.22 (96.99 – 97.44)	
Never	1717	17.50 (15.88 – 19.25)	2782	2.78 (2.56 – 3.01)	
Cognitive functioning					**< 0.001**
No difficulty	4838	44.16 (42.03 – 46.32)	102915	94.46 (94.18 – 94.73)	
Serious difficulty	5945	55.84 (53.68 – 57.97)	6487	5.54 (5.27 – 5.82)	
Social functioning					**< 0.001**
No difficulty	4330	42.09 (39.98 – 44.22)	86814	81.64 (81.13 – 82.13)	
A litter difficulty/A lot of difficulty	6453	57.91 (55.78 – 60.02)	22588	18.36 (17.87 – 18.87)	

Abbreviation: LD = Learning Disability; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S8. 24-hour movement guidelines adherence and health indicators in children with and without ID

Variable	With ID (N = 1539)		Without ID (N = 118603)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					**0.030**
Meeting guideline	288	17.87 (14.43 – 21.93)	24997	22.22 (21.67 – 22.77)	
Not meeting guideline	1251	82.13 (78.07 – 85.57)	93606	77.78 (77.23 – 78.33)	
ST					**0.003**
Meeting guideline	613	35.40 (30.49 – 40.65)	50362	43.70 (43.05 – 44.36)	
Not meeting guideline	926	64.60 (59.35 – 69.51)	68241	56.30 (55.64 – 56.95)	
SL					**0.026**
Meeting guideline	1030	57.82 (51.73 – 63.68)	81440	65.00 (64.36 – 65.65)	
Not meeting guideline	509	42.18 (36.32 – 48.27)	37163	35.00 (34.35 – 35.64)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	1285	83.47 (79.17 – 87.03)	117163	98.39 (98.17 – 98.58)	
Fair/Poor	254	16.53 (12.97 – 20.83)	1440	1.61 (1.42 – 1.83)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	1087	69.55 (64.51 – 74.16)	114554	96.28 (96.02 – 96.53)	
Never	452	30.45 (25.84 – 35.49)	4049	3.72 (3.47 – 3.98)	
Cognitive functioning					**< 0.001**
No difficulty	208	14.87 (11.24 – 19.42)	107492	91.09 (90.74 – 91.44)	
Serious difficulty	1331	85.13 (80.58 – 88.76)	11111	8.91 (8.56 – 9.26)	
Social functioning					**< 0.001**
No difficulty	246	19.85 (15.36 – 25.26)	90856	78.95 (78.43 – 79.46)	
A litter difficulty/A lot of difficulty	1293	80.15 (74.74 – 84.64)	27747	21.05 (20.54 – 21.57)	

Abbreviation: ID = Intellectual Disability; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S9. 24-hour movement guidelines adherence and health indicators in children with and without DD

Variable	With DD (N = 8734)		Without DD (N = 111400)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					0.508
Meeting guideline	1690	21.56 (19.76 – 23.47)	23582	22.21 (21.65 – 22.78)	
Not meeting guideline	7044	78.44 (76.53 – 80.24)	87818	77.79 (77.22 – 78.35)	
ST					**< 0.001**
Meeting guideline	3316	37.63 (35.52 – 39.79)	47656	43.99 (43.32 – 44.67)	
Not meeting guideline	5418	62.37 (60.21 – 64.48)	63744	56.01 (55.33 – 56.68)	
SL					**0.001**
Meeting guideline	5745	61.16 (58.84 – 63.44)	76734	65.21 (64.54 – 65.88)	
Not meeting guideline	2989	38.84 (36.56 – 41.16)	34666	34.79 (34.12 – 35.46)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	8088	91.21 (89.84 – 92.40)	110347	98.71 (98.49 – 98.89)	
Fair/Poor	646	8.79 (7.60 – 10.16)	1053	1.29 (1.11 – 1.51)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	7174	80.62 (78.79 – 82.33)	108456	97.07 (96.82 – 97.31)	
Never	1560	19.38 (17.67 – 21.21)	2944	2.93 (2.69 – 3.18)	
Cognitive functioning					**< 0.001**
No difficulty	3774	43.49 (41.24 – 45.78)	103934	93.58 (93.25 – 93.90)	
Serious difficulty	4960	56.51 (54.22 – 58.76)	7466	6.42 (6.10 – 6.75)	
Social functioning					**< 0.001**
No difficulty	2794	33.60 (31.53 – 35.73)	88297	81.51 (81.00 – 82.01)	
A litter difficulty/A lot of difficulty	5940	66.40 (64.27 – 68.47)	23103	18.49 (17.99 – 19.00)	

Abbreviation: DD = Developmental Delay; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

Table S10. 24-hour movement guidelines adherence and health indicators in children with and without SD

Variable	With SD (N = 9868)		Without SD (N = 110337)		*P*
	Unweighted sample size	Weighted% (95%CI)	Unweighted sample size	Weighted% (95%CI)	
24-hour movement guidelines					
PA					0.418
Meeting guideline	2065	22.91 (21.06 – 24.88)	23225	22.09 (21.53 – 22.66)	
Not meeting guideline	7803	77.09 (75.12 – 78.94)	87112	77.91 (77.34 – 78.47)	
ST					0.345
Meeting guideline	4117	42.55 (40.34 – 44.79)	46862	43.67 (42.99 – 44.35)	
Not meeting guideline	5751	57.45 (55.21 – 59.66)	63475	56.33 (55.65 – 57.01)	
SL					0.345
Meeting guideline	6669	63.89 (61.63 – 66.09)	75851	65.01 (64.34 – 65.68)	
Not meeting guideline	3199	36.11 (33.91 – 38.37)	34486	34.99 (34.32 – 35.66)	
Health indicators					
General physical health					**< 0.001**
Excellent/Very good/good	9381	94.90 (93.94 – 95.71)	109129	98.48 (98.26 – 98.68)	
Fair/Poor	487	5.10 (4.29 – 6.06)	1208	1.52 (1.32 – 1.74)	
Emotional regulation					**< 0.001**
Always/Usually/Sometimes	8743	87.33 (85.74 – 88.76)	106956	96.68 (96.42 – 96.92)	
Never	1125	12.67 (11.24 – 14.26)	3381	3.32 (3.08 – 3.58)	
Cognitive functioning					**< 0.001**
No difficulty	6268	62.35 (60.05 – 64.60)	101497	92.53 (92.20 – 92.84)	
Serious difficulty	3600	37.65 (35.40 – 39.95)	8840	7.47 (7.16 – 7.80)	
Social functioning					**< 0.001**
No difficulty	4712	47.78 (45.53 – 50.05)	86435	80.85 (80.33 – 81.35)	
A litter difficulty/A lot of difficulty	5156	52.22 (49.95 – 54.47)	23902	19.15 (18.65 – 19.67)	

Abbreviation: SD = Speech or other language Disorder; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

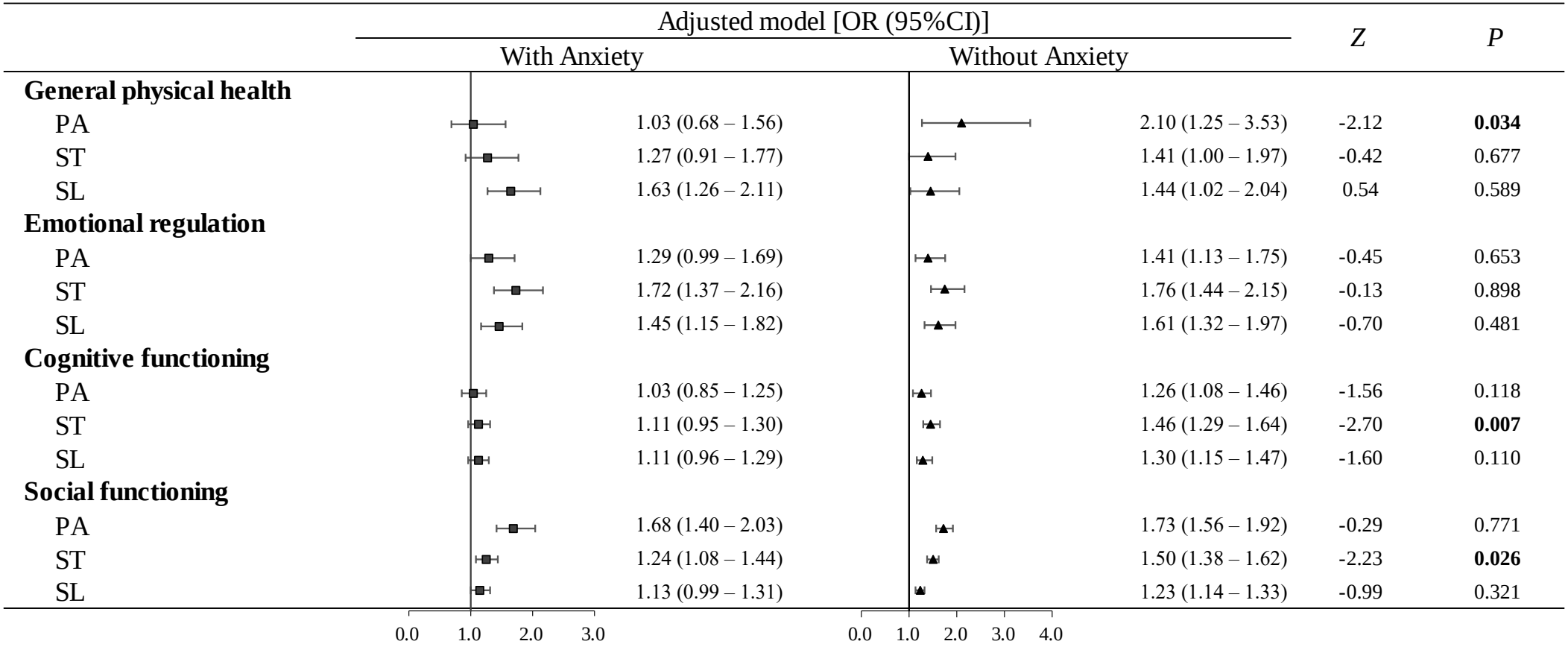

Figure S2. Associations between 24-hour movement guidelines adherence and health indicators in children with and without anxiety

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without anxiety. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

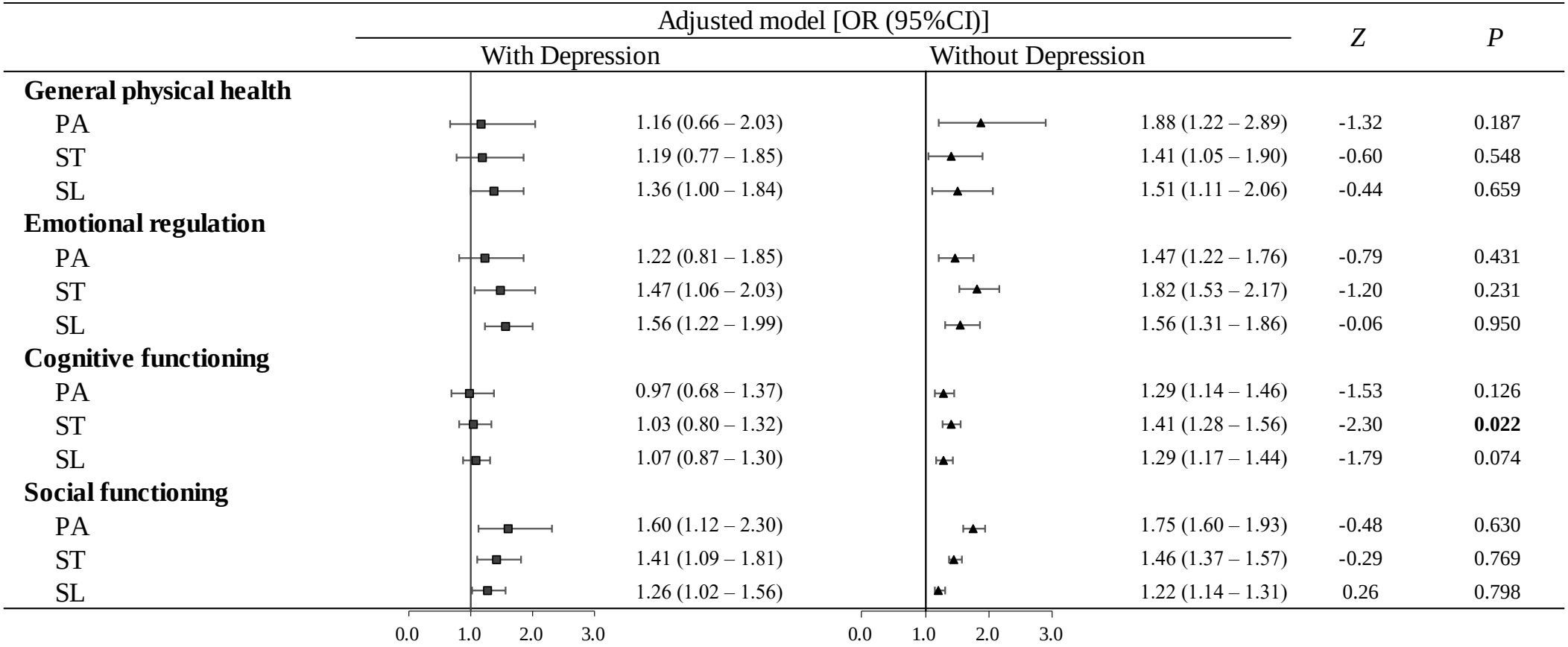

Figure S3. Associations between 24-hour movement guidelines adherence and health indicators in children with and without depression

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without depression. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

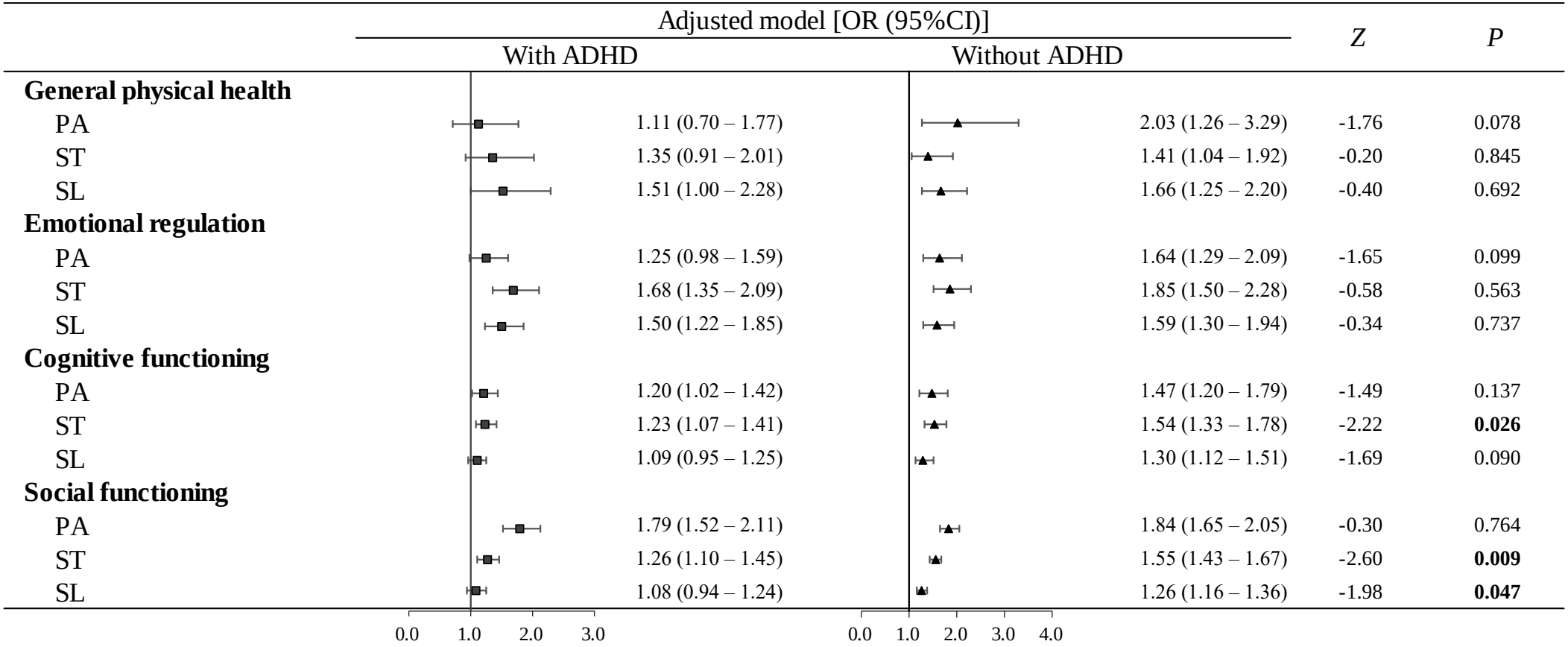

Figure S4. Associations between 24-hour movement guidelines adherence and health indicators in children with and without ADHD

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without ADHD. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: ADHD = Attention-Deficit/Hyperactivity Disorder; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

	Adjusted model [OR (95%CI)]		*Z*	*P*
	With Behavior/Conduct problem	Without Behavior/Conduct problem		
General physical health				
PA	1.32 (0.86 – 2.01)	2.06 (1.22 – 3.50)	-1.29	0.196
ST	1.15 (0.79 – 1.67)	1.45 (1.06 – 2.00)	-0.93	0.354
SL	1.17 (0.80 – 1.73)	1.73 (1.28 – 2.33)	-1.56	0.119
Emotional regulation				
PA	1.13 (0.90 – 1.42)	1.98 (1.55 – 2.53)	-3.30	**0.001**
ST	1.49 (1.21 – 1.84)	1.89 (1.49 – 2.40)	-1.41	0.158
SL	1.56 (1.30 – 1.88)	1.42 (1.11 – 1.81)	0.67	0.505
Cognitive functioning				
PA	1.07 (0.89 – 1.29)	1.51 (1.26 – 1.82)	-2.67	**0.008**
ST	1.01 (0.86 – 1.18)	1.53 (1.34 – 1.73)	-4.10	**0.000**
SL	1.05 (0.90 – 1.24)	1.29 (1.13 – 1.47)	-1.98	**0.048**
Social functioning				
PA	1.55 (1.28 – 1.87)	1.93 (1.72 – 2.15)	-1.89	0.059
ST	1.06 (0.90 – 1.25)	1.54 (1.43 – 1.66)	-4.14	**0.000**
SL	1.02 (0.86 – 1.20)	1.24 (1.15 – 1.34)	-2.03	**0.042**

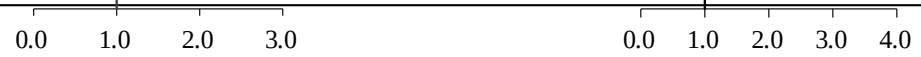

Figure S5. Associations between 24-hour movement guidelines adherence and health indicators in children with and without BP

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without BP. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: BP = Behavior/conduct Problem; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

	Adjusted model [OR (95%CI)]		*Z*	*P*
	With Tourette symdrome	Without Tourette symdrome		
General physical health				
PA	1.59 (0.28 – 9.20)	1.79 (1.26 – 2.54)	-0.13	0.895
ST	1.84 (0.32 – 10.57)	1.49 (1.16 – 1.91)	0.23	0.815
SL	2.48 (0.64 – 9.62)	1.66 (1.30 – 2.11)	0.59	0.558
Emotional regulation				
PA	0.69 (0.28 – 1.72)	1.50 (1.27 – 1.77)	-1.65	0.099
ST	0.83 (0.32 – 2.16)	1.89 (1.63 – 2.20)	-1.69	0.092
SL	1.22 (0.51 – 2.89)	1.74 (1.50 – 2.01)	-0.79	0.432
Cognitive functioning				
PA	0.89 (0.40 – 1.96)	1.32 (1.19 – 1.48)	-0.99	0.323
ST	0.96 (0.47 – 1.95)	1.47 (1.35 – 1.61)	-1.19	0.235
SL	1.25 (0.58 – 2.72)	1.39 (1.27 – 1.52)	-0.28	0.780
Social functioning				
PA	2.01 (0.86 – 4.70)	1.78 (1.63 – 1.94)	0.28	0.781
ST	0.98 (0.49 – 1.97)	1.52 (1.43 – 1.63)	-1.25	0.210
SL	0.95 (0.45 – 2.01)	1.30 (1.21 – 1.38)	-0.81	0.416

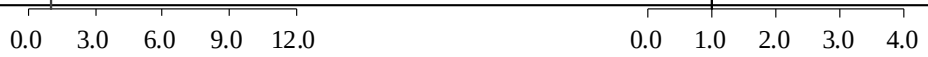

Figure S6. Associations between 24-hour movement guidelines adherence and health indicators in children with and without TS

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without TS. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: TS = Tourette Syndrome; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

	Adjusted model [OR (95%CI)]		*Z*	*P*
	With ASD	Without ASD		
General physical health				
PA	0.79 (0.42 – 1.51)	1.88 (1.25 – 2.82)	-2.20	**0.028**
ST	1.13 (0.71 – 1.81)	1.48 (1.12 – 1.94)	-0.97	0.331
SL	2.07 (1.30 – 3.29)	1.67 (1.28 – 2.18)	0.79	0.428
Emotional regulation				
PA	1.32 (0.87 – 2.00)	1.40 (1.16 – 1.67)	-0.22	0.827
ST	1.74 (1.21 – 2.50)	1.78 (1.51 – 2.09)	-0.10	0.919
SL	1.40 (0.97 – 2.03)	1.73 (1.48 – 2.02)	-1.02	0.308
Cognitive functioning				
PA	0.81 (0.56 – 1.19)	1.28 (1.15 – 1.43)	-2.31	**0.021**
ST	1.07 (0.81 – 1.42)	1.42 (1.29 – 1.55)	-1.88	0.060
SL	0.96 (0.71 – 1.31)	1.42 (1.29 – 1.55)	-2.33	**0.020**
Social functioning				
PA	1.54 (0.97 – 2.45)	1.76 (1.61 – 1.93)	-0.57	0.568
ST	1.51 (1.06 – 2.17)	1.48 (1.38 – 1.59)	0.16	0.869
SL	1.07 (0.72 – 1.58)	1.30 (1.22 – 1.39)	-0.99	0.323

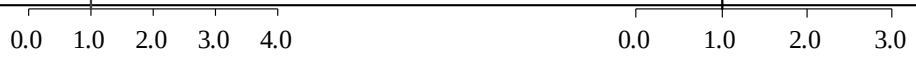

Figure S7. Associations between 24-hour movement guidelines adherence and health indicators in children with and without ASD

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without ASD. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: ASD = Autism Spectrum Disorder; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

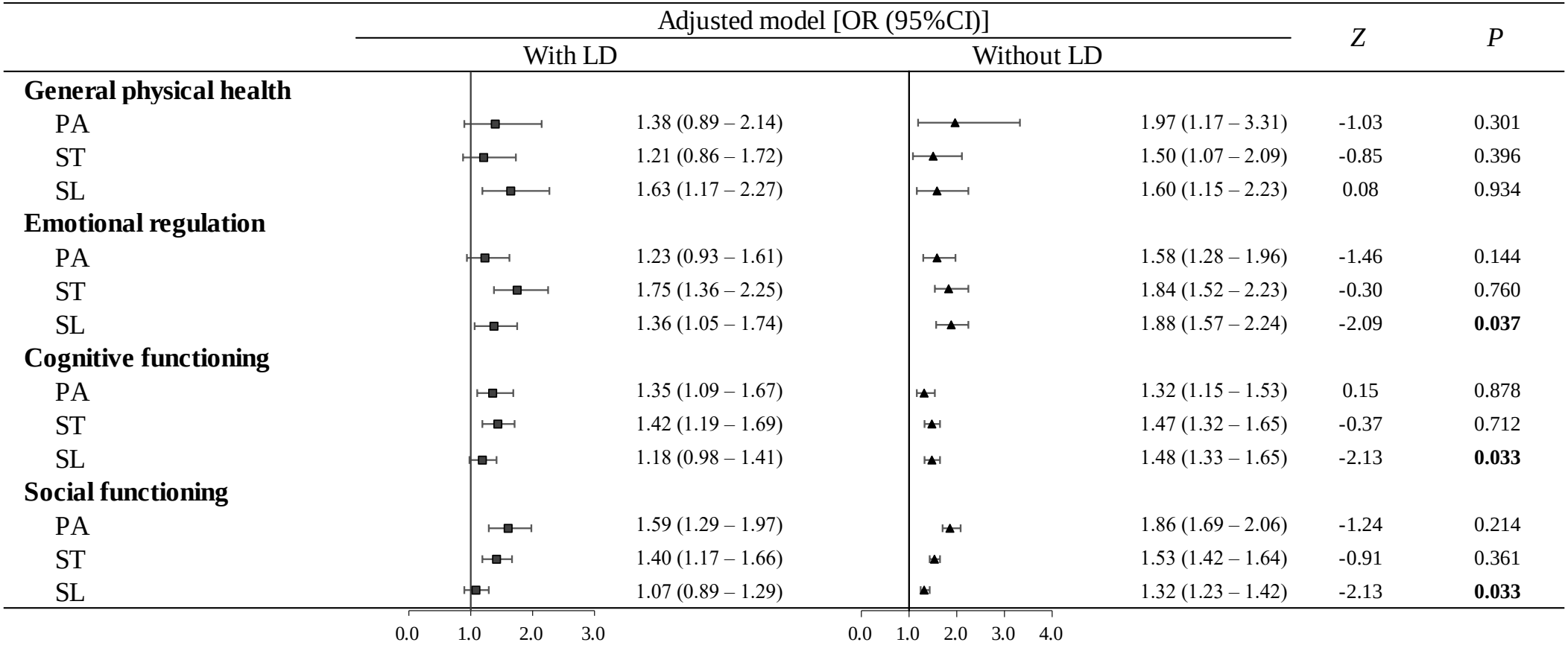

Figure S8. Associations between 24-hour movement guidelines adherence and health indicators in children with and without LD

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without LD. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: LD = Learning Disability; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

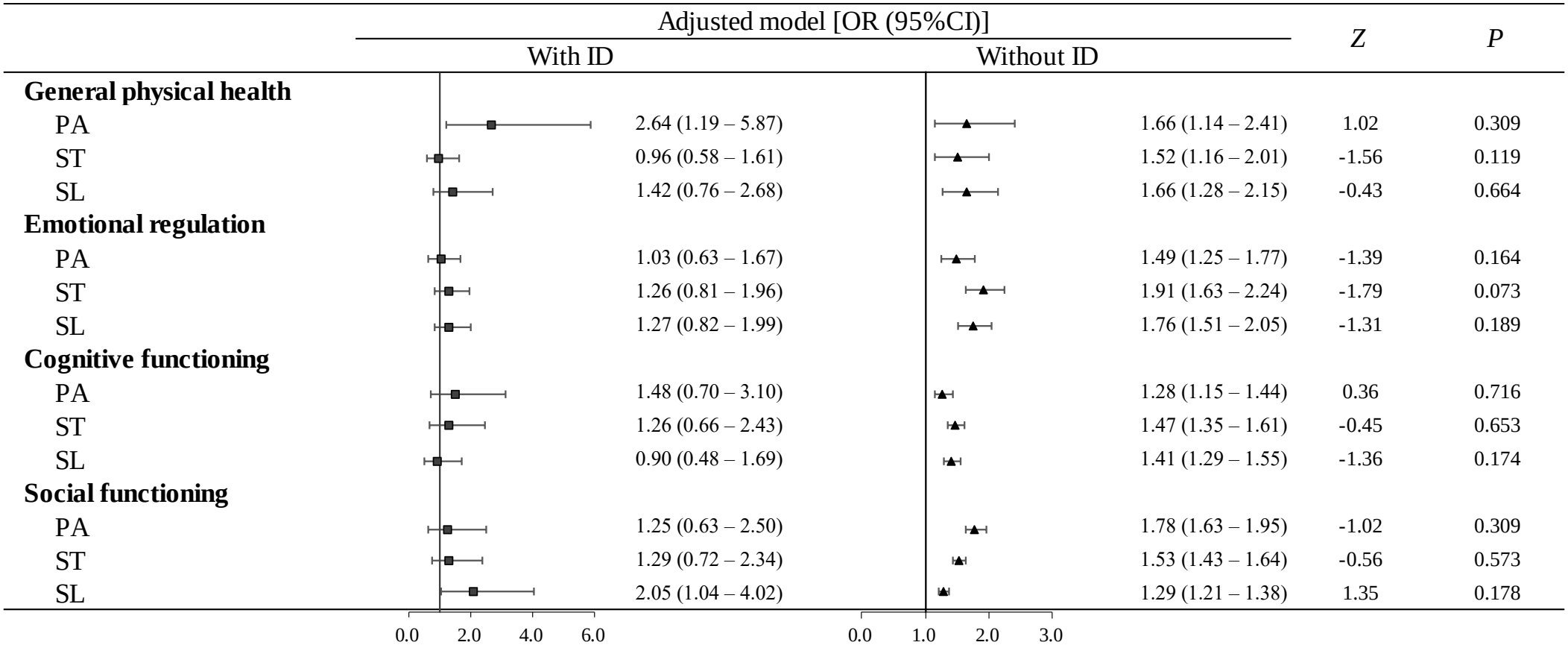

Figure S9. Associations between 24-hour movement guidelines adherence and health indicators in children with and without ID

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without ID. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: ID = Intellectual Disability; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

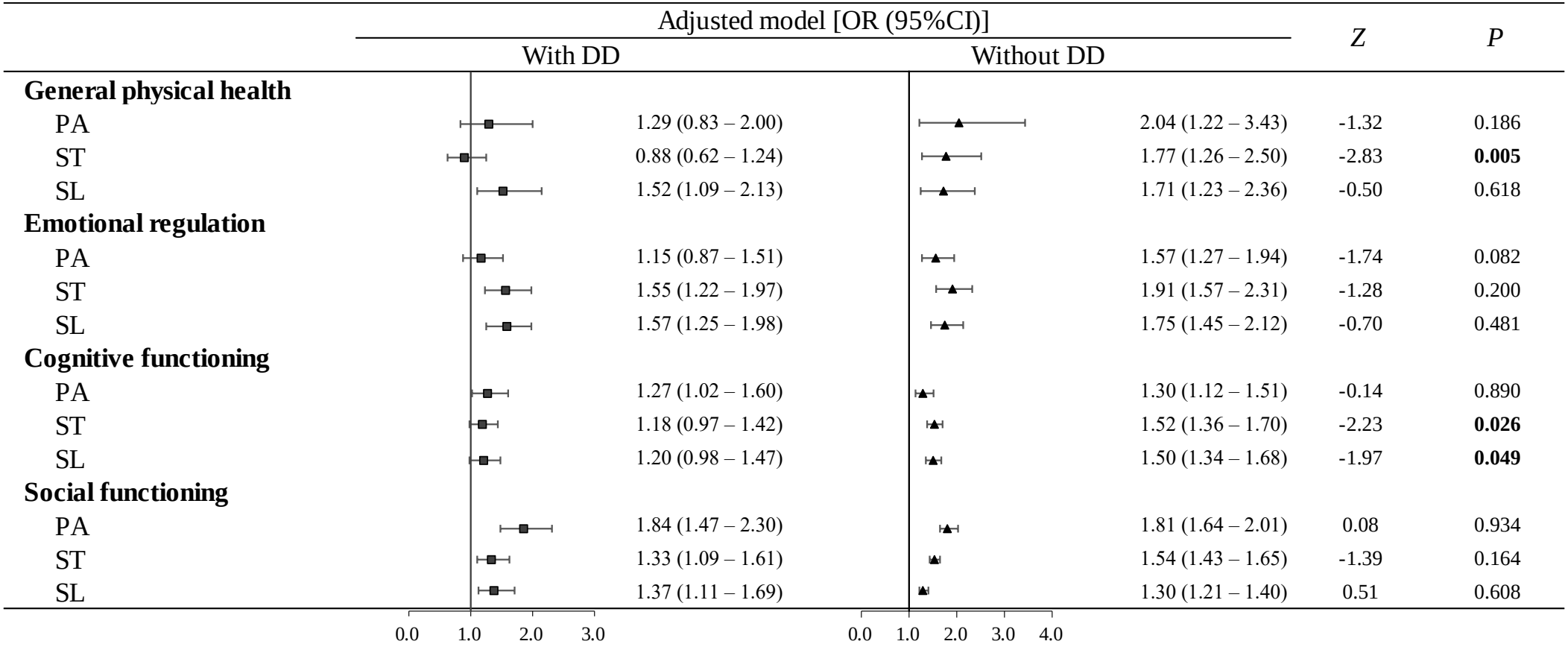

Figure S10. Associations between 24-hour movement guidelines adherence and health indicators in children with and without DD

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without DD. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: DD = Developmental Delay; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.

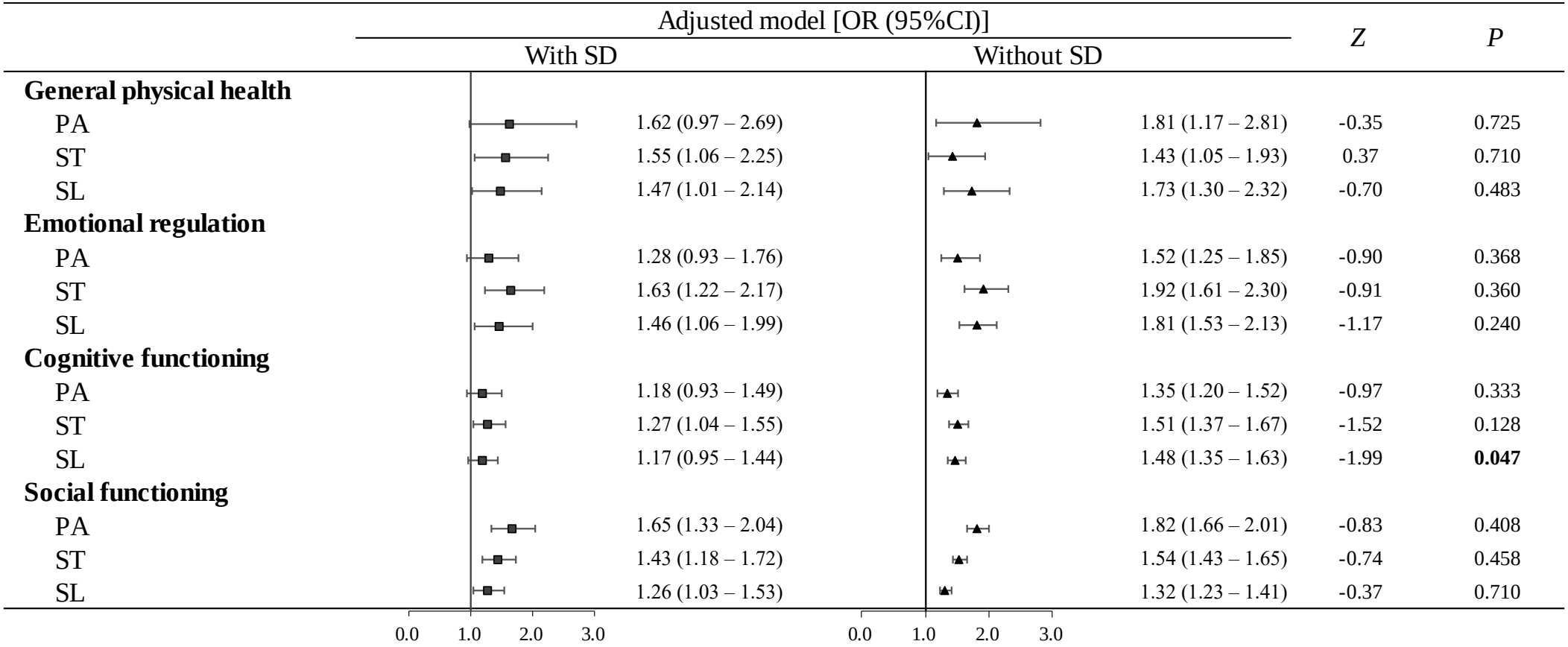

Figure S11. Associations between 24-hour movement guidelines adherence and health indicators in children with and without SD

The Z value was calculated by a two-sample test to analyze statistically significant differences in the estimated odds ratio across children with and without SD. All models were adjusted for child's age, race/ethnicity, highest parental education, and household income level.

Abbreviation: SD = Speech or other language Disorder; PA = physical activity; ST = screen time; SL = sleep. *P* values <0.05 are highlighted in bold.