

**Web appendix A. Subgroup analyses by sex for the primary and secondary developmental outcomes. Values are mean (SD) and treatment effects are mean difference based on imputed data unless otherwise indicated.**

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
<b>PRIMARY</b>						
<b>Wechsler Abbreviated Scale of Intelligence</b>						
Full scale IQ				†0.9		‡0.15
- <i>females</i>	99.5 (14.0)	101.7 (14.9)	-2.2 (-6.0 to 1.6)	0.26	-2.3 (-6.1 to 1.4)	0.22
- <i>males</i>	97.1 (14.0)	95.9 (14.3)	1.2 (-2.3 to 4.8)	0.49	1.4 (-2.1 to 4.9)	0.44
<b>SECONDARY</b>						
Verbal IQ				†0.29		‡0.24
- <i>females</i>	99.9 (14.6)	102.3 (15.4)	-2.4 (-6.3 to 1.5)	0.23	-2.5 (-6.3 to 1.3)	0.20
- <i>males</i>	96.3 (13.7)	95.9 (15.6)	0.5 (-3.1 to 4.0)	0.80	0.6 (-3.0 to 4.1)	0.75
Performance IQ				†0.17		‡0.14
- <i>females</i>	98.9 (14.1)	100.8 (13.8)	-1.9(-5.5 to 1.8)	0.31	-2.0 (-5.5 to 1.6)	0.27
- <i>males</i>	98.2 (14.9)	96.6 (13.1)	1.6 (-1.9 to 5.0)	0.37	1.7 (-1.7 to 5.1)	0.33
Number (%) Full Scale IQ <85				†0.30		†0.27
- <i>females</i>	16/139 (11.7%)	12/141 (8.8%)	1.3 (0.6 to 2.9)	0.46	1.4 (0.6 to 2.9)	0.44
- <i>males</i>	23/152 (15.3%)	32/172 (18.5%)	0.8 (0.5 to 1.4)	0.47	0.8 (0.5 to 1.3)	0.42
Number (%) Full Scale IQ <70§						

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>females</i> (n=138/133)	1 (0.7%)	0				
- <i>males</i> (n=148/163)	2 (1.4%)	5 (3.0%)				
<b>Test of Everyday Attention for Children</b>						
Sky search number correct scale score				†0.57		‡0.53
- <i>females</i>	9.0 (3.7)	9.1 (3.6)	-0.2 (-1.1 to 0.7)	0.67	-0.2 (-1.0 to 0.7)	0.68
- <i>males</i>	8.8 (3.8)	8.6 (3.9)	0.2 (-0.7 to 1.1)	0.70	0.2 (-0.7 to 1.1)	0.64
Score! number correct scale score				†0.96		‡0.97
- <i>females</i>	8.1 (4.1)	8.0 (3.7)	0.1 (-0.9 to 1.1)	0.83	0.1 (-0.9 to 1.0)	0.88
- <i>males</i>	8.0 (3.5)	8.0 (3.6)	0.1 (-0.8 to 0.9)	0.87	0.1 (-0.7 to 0.9)	0.82
Creature counting number correct scale score				†0.20		‡0.19
- <i>females</i>	7.9 (3.7)	8.6 (3.3)	-0.8 (-1.6 to 0.1)	0.10	-0.8 (-1.6 to 0.1)	0.09
- <i>males</i>	7.6 (3.6)	7.5 (3.5)	0.1 (-0.8 to 1.0)	0.88	0.1 (-0.8 to 1.0)	0.86
Sky search dual task composite score				†0.17		‡0.15
- <i>females</i>	4.4 (2.8)	4.9 (2.9)	-0.5 (-1.2 to 0.2)	0.17	-0.5 (-1.2 to 0.2)	0.17
- <i>males</i>	4.1 (2.8)	3.9 (2.8)	0.2 (-0.5 to 0.9)	0.57	0.2 (-0.5 to 0.9)	0.52
<b>Rey Auditory Verbal Learning Test</b>						
Trial 1 correct words				†0.77		‡0.74

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>females</i>	4.6 (2.0)	4.5 (1.8)	0.1 (-0.4 to 0.6)	0.66	0.1 (-0.3 to 0.6)	0.59
- <i>males</i>	4.2 (2.0)	4.2 (2.1)	0.0 (-0.5 to 0.5)	0.98	0.0 (-0.4 to 0.5)	0.94
Total (trials 1 to 5) correct words				†0.85		‡0.80
- <i>females</i>	36.2 (11.7)	36.4 (10.2)	-0.3 (-3.0 to 2.5)	0.86	-0.1 (-2.8 to 2.6)	0.95
- <i>males</i>	32.8 (12.2)	33.4 (11.1)	-0.6 (-3.3 to 2.1)	0.65	-0.6 (-3.2 to 2.1)	0.67
Total intrusions				†0.93		‡0.89
- <i>females</i>	1.6 (3.4)	2.0 (4.2)	-0.4 (-1.3 to 0.5)	0.42	-0.4 (-1.3 to 0.5)	0.38
- <i>males</i>	2.5 (3.4)	2.9 (3.9)	-0.3 (-1.2 to 0.6)	0.47	-0.3 (-1.2 to 0.5)	0.46
Total repetitions				†0.34		‡0.30
- <i>females</i>	4.6 (5.3)	3.9 (4.8)	0.6 (-0.6 to 1.9)	0.31	0.79 (-0.5 to 1.9)	0.27
- <i>males</i>	3.5 (3.7)	3.6 (3.4)	-0.1 (-0.9 to 0.7)	0.87	-0.1 (-0.9 to 0.7)	0.87
Delayed recall correct words				†0.48		‡0.48
- <i>females</i>	7.7 (3.4)	7.8 (2.9)	-0.1 (-0.8 to 0.7)	0.83	-0.1 (-0.8 to 0.7)	0.89
- <i>males</i>	6.9 (3.5)	6.6 (3.1)	0.3 (-0.4 to 1.0)	0.43	0.3 (-0.4 to 1.1)	0.38
Delayed recognition correct words				†0.21		‡0.21
- <i>females</i>	13.5 (2.3)	13.7 (2.2)	-0.2 (-0.7 to 0.4)	0.54	-0.2 (-0.7 to 0.4)	0.56
- <i>males</i>	13.1 (2.9)	12.6 (3.5)	0.4 (-0.3 to 1.2)	0.27	0.4 (-0.3 to 1.2)	0.26
<b>Rey Complex Figure</b>						
Copy raw score				†0.37		‡0.37
- <i>females</i>	17.1 (7.0)	17.4 (7.1)	-0.4 (-2.1 to 1.4)	0.69	-0.3 (-2.0 to 1.4)	0.75

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- males	16.2 (7.8)	15.4 (8.2)	0.8 (-1.1 to 2.7)	0.41	0.9 (-1.0 to 2.7)	0.36
Delayed recall raw score				†0.61		‡0.63
- females	8.1 (4.9)	7.7 (5.0)	0.3 (-0.9 to 1.5)	0.60	0.4 (-0.8 to 1.5)	0.54
- males	7.2 (4.9)	6.5 (5.0)	0.7 (-0.4 to 1.9)	0.21	0.87 (-0.4 to 1.9)	0.19
Organisational raw score				†0.46		‡0.49
- females	3.4 (1.2)	3.4 (1.2)	-0.0 (-0.3 to 0.3)	0.87	-0.0 (-0.3 to 0.3)	0.95
- males	3.4 (1.3)	3.2 (1.2)	0.1 (-0.2 to 0.4)	0.39	0.1 (-0.2 to 0.4)	0.37
<b>Fruit Stroop Test</b>						
Interference score				†0.98		‡0.98
- females	1.2 (6.0)	1.3 (5.3)	-0.2 (-1.6 to 1.2)	0.80	-0.1 (-1.5 to 1.2)	0.84
- males	0.8 (5.7)	1.0 (5.5)	-0.2 (-1.4 to 1.1)	0.81	-0.2 (-1.4 to 1.1)	0.80
<b>Test of Visual Perception Skills</b>						
Visual discrimination standard score				†0.15		‡0.14
- females	8.1 (2.7)	8.6 (3.7)	-0.5 (-1.3 to 0.33)	0.25	-0.5 (-1.2 to 0.3)	0.25
- males	8.1 (3.3)	7.7 (3.5)	0.4 (-0.4 to 1.1)	0.37	0.4 (-0.4 to 1.1)	0.34
Figure ground standard score				†0.82		‡0.86
- females	10.0 (3.7)	10.2 (4.24)	-0.1 (-1.1 to 0.9)	0.81	-0.1 (-1.1 to 0.8)	0.77
- males	8.8 (3.8)	9.1 (4.2)	-0.3 (-1.2 to 0.7)	0.56	-0.3 (-1.2 to 0.7)	0.57
Visual closure standard score				†0.99		‡0.99
- females	7.7 (3.5)	8.1 (3.7)	-0.5 (-1.3 to 0.4)	0.29	-0.4 (-1.3 to 0.4)	0.31

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>males</i>	7.5 (3.7)	7.9 (3.7)	-0.5 (-1.3 to 0.4)	0.31	-0.4 (-1.3 to 0.4)	0.32
<b>Wide Range Achievement Test 4<sup>th</sup> edition</b>						
Word reading standard score				†0.19		‡0.18
- <i>females</i>	103.6 (15.7)	105.0 (17.3)	-1.4 (-5.6 to 2.7)	0.50	-1.5 (-5.7 to 2.6)	0.48
- <i>males</i>	101.0 (16.3)	98.6 (18.8)	2.4 (-1.8 to 6.7)	0.26	2.5 (-1.7 to 6.7)	0.25
Spelling standard score				†0.59		‡0.56
- <i>females</i>	100.3 (16.1)	101.8 (16.2)	-1.5 (-5.5 to 2.5)	0.47	-1.6 (-5.6 to 2.4)	0.44
- <i>males</i>	95.0 (16.2)	94.9 (17.3)	0.1 (-4.0 to 4.1)	0.98	0.1 (-3.9 to 4.2)	0.95
Math computation standard score				†0.29		‡0.26
- <i>females</i>	91.7 (13.8)	93.1 (14.3)	-1.4 (-5.0 to 2.2)	0.45	-1.3 (-4.8 to 2.1)	0.45
- <i>males</i>	90.0 (16.0)	88.5 (15.2)	1.4 (-2.4 to 5.3)	0.46	1.6 (-2.2 to 5.3)	0.41
* Adjusted for birth weight (<1250 g or ≥1250 g) and recruiting centre						
† Interaction test P-value unadjusted						
‡ Interaction test P-value adjusted						
§ Raw data used and inferential analysis not done due to small number of cases						

**Web appendix B. Subgroup analyses by sex for the secondary parent reported health, wellbeing and education outcomes. Values are mean (SD) and treatment effects are mean difference based on imputed data unless otherwise indicated.**

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
<b>Behaviour Rating Inventory of Executive Functioning</b>						
Behavioural recognition scale				†0.07		‡0.07
- <i>females</i>	53.8 (12.1)	49.8 (11.4)	4.0 (1.0 to 7.1)	0.009	4.0 (0.9, 7.0)	0.01
- <i>males</i>	53.5 (12.7)	53.4 (13.0)	0.1 (-2.9 to 3.1)	0.94	0.1 (-2.9, 3.1)	0.95
-Inhibit scale				†0.01		‡0.01
- <i>females</i>	53.2 (11.4)	48.8 (10.2)	4.4 (1.7 to 7.1)	0.001	4.3 (1.6, 7.0)	0.002
- <i>males</i>	53.4 (11.5)	53.8 (12.1)	-0.4 (-3.1 to 2.4)	0.78	-0.4 (-3.1, 2.3)	0.76
-Shift scale				†0.26		‡0.26
- <i>females</i>	54.1 (13.0)	50.9 (12.0)	3.2 (0.0 to 6.4)	0.049	3.2 (-0.0, 6.4)	0.052
- <i>males</i>	53.2 (13.1)	52.4 (13.0)	0.7 (-2.3 to 3.7)	0.64	0.7 (-2.3, 3.6)	0.65
-Emotional control scale				†0.26		‡0.27
- <i>females</i>	53.0 (11.9)	50.3 (12.4)	2.7 (-0.4 to 5.9)	0.09	2.7 (-0.5, 5.8)	0.09
- <i>males</i>	53.3 (12.7)	53.1 (12.8)	0.2 (-2.8 to 3.3)	0.88	0.2 (-2.7, 3.2)	0.87
Metacognition index				†0.04		‡0.03

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadju sted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>females</i>	54.9 (13.3)	51.4 (13.1)	3.5 (0.1 to 6.9)	0.04	3.4 (0.0, 6.7)	0.048
- <i>males</i>	54.8 (11.9)	56.0 (12.3)	-1.2 (-4.1 to 1.6)	0.41	-1.3 (-4.1, 1.5)	0.35
-Initiate scale				†0.12		‡0.12
- <i>females</i>	53.2 (13.1)	50.8 (11.9)	2.4 (-0.7 to 5.6)	0.13	2.4 (-0.8, 5.5)	0.14
- <i>males</i>	53.0 (10.1)	53.7 (11.2)	-0.7 (-3.2 to 1.8)	0.58	-0.8 (-3.2, 1.7)	0.54
-Working memory scale				†0.12		‡0.11
- <i>females</i>	54.4 (13.5)	52.0 (13.4)	2.4 (-0.9 to 5.7)	0.16	2.4 (-0.9, 5.6)	0.16
- <i>males</i>	56.4 (13.3)	57.6 (13.6)	-1.2 (-4.3 to 1.9)	0.46	-1.3 (-4.4, 1.7)	0.40
-Plan/organise scale				†0.04		‡0.04
- <i>females</i>	56.7 (13.5)	53.5 (13.6)	3.2 (-0.3 to 6.6)	0.07	3.1 (-0.3, 6.4)	0.08
- <i>males</i>	55.4 (13.3)	56.9 (12.8)	-1.5 (-4.6 to 1.6)	0.33	-1.6 (-4.6, 1.4)	0.29
-Organisation of materials scale				†0.32		‡0.33
- <i>females</i>	52.6 (11.0)	50.5 (9.9)	2.1 (-0.5 to 4.8)	0.12	2.1 (-0.6, 4.7)	0.13
- <i>males</i>	53.6 (10.4)	53.4 (11.4)	0.3 (-2.3 to 2.8)	0.85	0.2 (-2.3, 2.8)	0.85
-Monitor scale				†0.02		‡0.02
- <i>females</i>	53.5 (13.3)	49.9 (13.3)	3.6 (0.2 to 6.9)	0.04	3.5 (0.1, 6.8)	0.04
- <i>males</i>	52.6 (12.4)	54.4 (12.6)	-1.8 (-4.7 to 1.1)	0.23	-1.9 (-4.7, 0.9)	0.19

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
Global executive composite (total score)				†0.04		‡0.04
- <i>females</i>	55.0 (12.7)	51.1 (12.6)	3.9 (0.6 to 7.2)	0.02	3.8 (0.5, 7.1)	0.02
- <i>males</i>	54.9 (12.3)	55.6 (12.8)	-0.7 (-3.7 to 2.2)	0.63	-0.8 (-3.7, 2.1)	0.59
<b>Attention Deficit Hyperactivity Disorder (Conners 3<sup>TM</sup> AI-parent)</b>						
ADHD t score (total score)				†0.05		‡0.05
- <i>females</i>	64.9 (17.8)	60.3 (18.4)	4.6 (0.2 to 9.1)	0.04	4.5 (0.1, 8.9)	0.047
- <i>males</i>	66.3 (19.1)	67.7 (18.3)	-1.4 (-5.8 to 2.9)	0.52	-1.5 (-5.8, 2.7)	0.47
<b>Strengths and Difficulties Questionnaire§</b>						
Emotional symptoms scale score				†0.88		‡0.82
- <i>females</i>	2.6 (2.2)	2.4 (2.2)	0.2 (-0.4 to 0.8)	0.47	0.2 (-0.3, 0.8)	0.43
- <i>males</i>	2.3 (2.17)	2.1 (2.1)	0.1 (-0.3 to 0.6)	0.55	0.1 (-0.3, 0.6)	0.58
Conduct problems scale score				†0.003		‡0.003
- <i>females</i>	2.2 (2.0)	1.5 (1.6)	0.7 (0.3 to 1.2)	0.002	0.7 (0.3, 1.2)	0.002
- <i>males</i>	2.1 (1.8)	2.3 (2.0)	-0.2 (-0.6 to 0.2)	0.35	-0.2 (-0.6, 0.2)	0.33
Hyperactivity scale score				†0.12		‡0.10



<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadju sted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>females</i>	3.9 (2.7)	3.4 (2.6)	0.5 (-0.1 to 1.2)	0.12	0.5 (-0.1, 1.1)	0.13
- <i>males</i>	4.9 (2.9)	5.1 (2.8)	-0.2 (-0.9 to 0.4)	0.52	-0.2 (-0.9, 0.4)	0.45
Peer problems scale score				†0.94		‡0.95
- <i>females</i>	1.7 (2.0)	1.5 (1.6)	0.2 (-0.2 to 0.6)	0.34	0.2 (-0.2, 0.6)	0.34
- <i>males</i>	1.9 (1.9)	1.7 (1.8)	0.2 (-0.2 to 0.7)	0.28	0.2 (-0.2, 0.6)	0.29
Prosocial scale score				†0.25		‡0.24
- <i>females</i>	8.3 (1.8)	8.5 (1.7)	-0.1 (-0.6 to 0.3)	0.64	-0.1 (-0.6, 0.3)	0.66
- <i>males</i>	8.0 (2.0)	7.8 (2.1)	0.3 (-0.2 to 0.8)	0.26	0.3 (-0.2, 0.8)	0.23
Impact score				†0.49		‡0.44
- <i>females</i>	0.7 (1.6)	0.6 (1.3)	0.1 (-0.2 to 0.5)	0.40	0.2 (-0.2, 0.5)	0.38
- <i>males</i>	1.1 (2.1)	1.2 (1.9)	-0.1 (-0.5 to 0.4)	0.82	-0.1 (-0.5, 0.4)	0.77
Total difficulties score				†0.13		‡0.12
- <i>females</i>	10.5 (6.8)	8.9 (5.8)	1.7 (0.0 to 3.3)	0.046	1.6 (0.0, 3.3)	0.047
- <i>males</i>	11.2 (6.7)	11.2 (6.4)	-0.0 (-1.6 to 1.5)	0.96	-0.1 (-1.6, 1.4)	0.90
<b>Health Utilities Index Mark 3  </b>						
Vision score				†0.34		‡0.31
- <i>females</i>	0.98 (0.06)	0.99 (0.05)	-0.00 (-0.02 to 0.01)	0.47	-0.01 (-0.02, 0.01)	0.40

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadju sted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>males</i>	0.98 (0.06)	0.98 (0.10)	0.01 (-0.01 to 0.02)	0.52	0.01 (-0.01, 0.02)	0.51
Hearing score				†0.64		‡0.63
- <i>females</i>	0.99 (0.04)	0.99 (0.06)	-0.00 (-0.01 to 0.01)	0.67	-0.00 (-0.01, 0.01)	0.66
- <i>males</i>	1.00 (0.01)	1.00 (0.02)	0.00 (-0.00 to 0.00)	0.86	0.00 (-0.00, 0.01)	0.83
Speech score				†0.82		‡0.83
- <i>females</i>	0.97 (0.11)	0.95 (0.12)	0.01 (-0.01 to 0.04)	0.35	0.01 (-0.01, 0.04)	0.32
- <i>males</i>	0.95 (0.13)	0.93 (0.15)	0.02 (-0.01 to 0.05)	0.25	0.02 (-0.01, 0.05)	0.24
Ambulation score				†0.07		‡0.08
- <i>females</i>	0.98 (0.12)	1.00 (0.00)	-0.02 (-0.05 to -0.00)	0.03	-0.02 (-0.04, -0.00)	0.03
- <i>males</i>	0.98 (0.10)	0.98 (0.12)	0.01 (-0.02 to 0.03)	0.61	0.01 (-0.02, 0.03)	0.64
Dexterity score				†0.20		‡0.24
- <i>females</i>	0.99 (0.08)	1.00 (0.01)	-0.01 (-0.03 to 0.00)	0.12	-0.01 (-0.02, 0.00)	0.13
- <i>males</i>	0.98 (0.09)	0.98 (0.12)	0.01 (-0.02 to 0.03)	0.60	0.01 (-0.02, 0.03)	0.64
Emotion score				†0.94		‡0.97
- <i>females</i>	0.99 (0.05)	0.99 (0.04)	-0.01 (-0.02 to 0.01)	0.31	-0.01 (-0.02, 0.01)	0.33
- <i>males</i>	0.99 (0.04)	0.99 (0.03)	-0.01 (-0.01 to 0.00)	0.17	-0.01 (-0.01, 0.00)	0.17
Cognition score				†0.84		‡0.82

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadju sted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>females</i>	0.95 (0.14)	0.96 (0.10)	-0.01 (-0.04 to 0.02)	0.46	-0.01 (-0.04, 0.02)	0.45
- <i>males</i>	0.92 (0.14)	0.92 (0.14)	-0.01 (-0.04 to 0.03)	0.70	-0.01 (-0.04, 0.03)	0.73
<b>Pain score</b>				†0.67		‡0.66
- <i>females</i>	0.98 (0.06)	0.99 (0.03)	-0.01 (-0.02 to 0.00)	0.21	-0.01 (-0.02, 0.00)	0.21
- <i>males</i>	0.99 (0.05)	0.99 (0.03)	-0.00 (-0.01 to 0.01)	0.38	-0.00 (-0.01, 0.01)	0.39
<b>Multiple attribute score</b>				†0.39		‡0.39
- <i>females</i>	0.90 (0.19)	0.93 (0.13)	-0.03 (-0.07 to 0.01)	0.20	-0.02 (-0.06, 0.01)	0.20
- <i>males</i>	0.88 (0.18)	0.88 (0.20)	-0.00 (-0.04 to 0.04)	0.98	-0.00 (-0.04, 0.04)	0.99
<b>Pediatric Quality of Life Inventory ¶</b>						
<b>Physical functioning score</b>				†0.60		‡0.61
- <i>females</i>	88.0 (15.5)	89.4 (14.0)	-1.4 (-5.1 to 2.4)	0.48	-1.3 (-5.0, 2.4)	0.48
- <i>males</i>	86.4 (19.3)	86.3 (19.2)	0.2 (-4.2 to 4.5)	0.94	0.2 (-4.2, 4.6)	0.94
<b>Emotional functioning score</b>				†0.47		‡0.48
- <i>females</i>	75.1 (18.4)	79.2 (15.8)	-4.1 (-8.6 to 0.4)	0.08	-4.0 (-8.6, 0.5)	0.08
- <i>males</i>	75.1 (19.7)	76.9 (16.9)	-1.8 (-6.2 to 2.7)	0.43	-1.8 (-6.2, 2.7)	0.43
<b>Social functioning score</b>				†0.29		‡0.28

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadju sted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <i>females</i>	83.1 (18.9)	87.4 (16.5)	-4.3 (-8.7 to 0.1)	0.06	-4.2 (-8.7, 0.2)	0.06
- <i>males</i>	79.9 (21.3)	80.7 (21.0)	-0.8 (-5.6 to 4.0)	0.74	-0.7 (-5.4, 4.0)	0.78
School functioning score				†0.39		‡0.41
- <i>females</i>	78.6 (19.2)	81.1 (18.0)	-2.6 (-7.3 to 2.1)	0.28	-2.3 (-6.9, 2.3)	0.33
- <i>males</i>	72.8 (19.9)	72.6 (20.30)	0.3 (-4.4 to 5.0)	0.91	0.4 (-4.2, 5.0)	0.86
Psychosocial health summary score				†0.29		‡0.29
- <i>females</i>	78.9 (15.7)	82.6 (13.8)	-3.7 (-7.5 to 0.2)	0.06	-3.5 (-7.3, 0.3)	0.07
- <i>males</i>	76.0(16.9)	76.7 (16.4)	-0.8 (-4.7 to 3.2)	0.71	-0.7 (-4.6, 3.2)	0.74
Physical health summary score				†0.60		‡0.61
- <i>females</i>	88.0 (15.5)	89.4 (14.0)	-1.4 (-5.1 to 2.4)	0.48	-1.3 (-5.0, 2.4)	0.48
- <i>males</i>	86.4 (19.3)	86.3 (19.2)	0.2 (-4.2 to 4.5)	0.94	0.2 (-4.2, 4.6)	0.94
Total score				†0.35		‡0.35
- <i>females</i>	82.1 (14.0)	84.9 (12.6)	-2.9 (-6.3 to 0.6)	0.10	-2.8 (-6.2, 0.7)	0.11
- <i>males</i>	79.6 (16.2)	80.0 (15.5)	-0.5 (-4.2 to 3.3)	0.81	-0.4 (-4.1, 3.3)	0.84
<b>Number (%) of children who repeated a school year§</b>				†0.19		‡0.17
- <i>females</i>	16 (11.7)	12 (8.8)	1.3 (0.6 to 2.9)	0.46	1.4 (0.6, 2.9)	0.44

<b>Outcome</b>	<b>High-DHA diet mean (SD) Females N= 139 Males N= 152</b>	<b>Standard-DHA diet mean (SD) Females N= 141 Males N= 172</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
<i>- males</i>	13 (8.8)	11 (6.3)	1.4 (0.6 to 3.2)	0.43	1.3 (0.6, 2.9)	0.53
* Adjusted for birth weight (<1250 g or ≥1250 g) and recruiting centre						
† Interaction test P-value unadjusted						
‡ Interaction test P-value adjusted						
§ Treatment effects are relative risk based on imputed data						

**Web appendix C. Subgroup analyses by birthweight <1250 grams or ≥1250 grams for the primary and secondary developmental outcomes. Values are mean (SD) and treatment effects are mean difference based on imputed data unless otherwise indicated.**

<b>Outcome</b>	<b>High-DHA diet mean (SD)</b> <b>&lt;1250 g N= 132</b> <b>≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD)</b> <b>&lt;1250 g N= 139</b> <b>≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
<b>PRIMARY</b>						
<b>Wechsler Abbreviated Scale of Intelligence</b>						
Full scale IQ				†0.92		‡0.85
- < 1250 grams	96.6 (13.6)	96.7 (15.7)	-0.1 (-4.0 to 3.8)	0.97	-0.1 (-3.9 to 3.8)	0.97
- ≥ 1250 grams	99.7 (14.3)	100.0 (14.0)	-0.3 (-3.9 to 3.2)	0.85	-0.6 (-4.0 to 2.9)	0.74
<b>SECONDARY</b>						
Verbal IQ				†0.92		‡0.97
- < 1250 grams	95.6 (14.1)	96.7 (16.2)	-0.9 (-4.9 to 3.2)	0.68	-0.9 (-4.8 to 3.0)	0.65
- ≥ 1250 grams	99.8 (14.1)	100.4 (15.3)	-0.6 (-4.2 to 3.0)	0.75	-0.8 (-4.3 to 2.7)	0.65
Performance IQ				†0.79		‡0.71
- < 1250 grams	97.5 (13.2)	97.1 (14.6)	0.4 (-3.3 to 4.1)	0.82	0.5 (-3.2 to 4.2)	0.79
- ≥ 1250 grams	99.4 (15.5)	99.6 (12.6)	-0.2 (-3.7 to 3.2)	0.89	-0.4 (-3.9 to 3.0)	0.80
Number (%) Full Scale IQ <85				†0.90		†0.95
- < 1250 grams	24/132 (18.2%)	26/139 (18.5%)	1.0 (0.6 to 1.7)	0.95	1.0 (0.6 to 1.7)	0.91

<b>Outcome</b>	<b>High-DHA diet mean (SD)</b> <b>&lt;1250 g N= 132</b> <b>≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD)</b> <b>&lt;1250 g N= 139</b> <b>≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- ≥ 1250 grams	16/150 (9.9%)	19/174 (10.6%)	0.9 (0.5 to 1.9)	0.83	0.9 (0.5 to 1.9)	0.86
Number (%) Full Scale IQ <70§						
- < 1250 grams (n=129/130)	1 (0.8%)	3 (2.3%)				
- ≥ 1250 grams (157/166)	2 (1.3%)	2 (1.2%)				
<b>Test of Everyday Attention for Children</b>						
Sky search number correct scale score				†0.85		‡0.88
- < 1250 grams	8.1 (3.8)	8.1 (3.9)	-0.0 (-1.0 to 0.9)	0.94	-0.0 (-1.0 to 1.0)	0.98
- ≥ 1250 grams	9.5 (3.5)	9.4 (3.6)	0.1 (-0.7 to 0.9)	0.84	0.1 (-0.7 to 0.9)	0.82
Score! number correct scale score				†0.29		‡0.25
- < 1250 grams	8.1 (4.2)	7.6 (3.8)	0.5 (-0.6 to 1.5)	0.37	0.5 (-0.5 to 1.5)	0.34
- ≥ 1250 grams	8.1 (3.4)	8.3 (3.5)	-0.2 (-1.0 to 0.6)	0.59	-0.2 (-1.0 to 0.5)	0.54
Creature counting number correct scale score				†0.23		‡0.24
- < 1250 grams	7.5 (3.6)	8.2 (3.5)	-0.7 (-1.7 to 0.2)	0.14	-0.7 (-1.7 to 0.3)	0.15
- ≥ 1250 grams	8.0 (3.6)	7.9 (3.3)	0.1 (-0.8 to 0.9)	0.88	0.1 (-0.8 to 0.9)	0.89
Sky search dual task composite score				†0.82		‡0.76

<b>Outcome</b>	<b>High-DHA diet mean (SD) &lt;1250 g N= 132 ≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD) &lt;1250 g N= 139 ≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- < 1250 grams	3.7 (2.7)	3.7 (2.9)	-0.0 (-0.8 to 0.7)	0.93	-0.0 (-0.8 to 0.7)	0.95
- ≥ 1250 grams	4.7 (2.8)	4.8 (2.9)	-0.2 (-0.8 to 0.5)	0.65	-0.2 (-0.8 to 0.5)	0.59
<b>Rey Auditory Verbal Learning Test</b>						
Trial 1 correct words				†0.81		‡0.89
- < 1250 grams	4.2 (2.1)	4.2 (2.1)	0.0 (-0.5 to 0.5)	0.94	0.0 (-0.5 to 0.6)	0.87
- ≥ 1250 grams	4.6 (1.9)	4.5 (1.9)	0.1 (-0.3 to 0.5)	0.64	0.1 (-0.3 to 0.5)	0.67
Total (trials 1 to 5) correct words				†0.65		‡0.56
- < 1250 grams	33.2 (12.6)	33.1 (11.1)	0.2 (-2.9 to 3.2)	0.92	0.3 (-2.7 to 3.3)	0.85
- ≥ 1250 grams	35.4 (11.6)	36.2 (10.4)	-0.8 (-3.3 to 1.7)	0.55	-0.9 (-3.2 to 1.5)	0.48
Total intrusions				†0.34		‡0.28
- < 1250 grams	2.0 (3.8)	2.7 (4.9)	-0.7 (-1.8 to 0.4)	0.19	-0.8 (-1.8 to 0.3)	0.17
- ≥ 1250 grams	2.2 (3.1)	2.2 (3.1)	-0.1 (-0.8 to 0.6)	0.82	-0.0 (-0.8 to 0.7)	0.89
Total repetitions				†0.61		‡0.65
- < 1250 grams	3.8 (4.4)	3.7 (4.6)	0.1 (-1.0 to 1.2)	0.90	0.1 (-1.0 to 1.2)	0.86
- ≥ 1250 grams	4.2 (4.6)	3.8 (3.6)	0.4 (-0.5 to 1.4)	0.34	0.43 (-0.5 to 1.3)	0.35
Delayed recall correct words				†0.85		‡0.93



<b>Outcome</b>	<b>High-DHA diet mean (SD) &lt;1250 g N= 132 ≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD) &lt;1250 g N= 139 ≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- < 1250 grams	6.7 (3.7)	6.6 (3.2)	0.1 (-0.8 to 1.0)	0.82	0.1 (-0.7 to 1.0)	0.78
- ≥ 1250 grams	7.8 (3.2)	7.6 (2.8)	0.2 (-0.5 to 0.9)	0.54	0.2 (-0.5 to 0.8)	0.61
Delayed recognition correct words				†0.98		‡0.92
- < 1250 grams	13.0 (2.8)	12.8 (3.3)	0.2 (-0.6 to 0.9)	0.66	0.2 (-0.6 to 0.9)	0.63
- ≥ 1250 grams	13.5 (2.4)	13.4 (2.8)	0.2 (-0.4 to 0.8)	0.59	0.1 (-0.4 to 0.7)	0.64
<b>Key Complex Figure</b>						
Copy raw score				†0.98		‡0.94
- < 1250 grams	15.2 (7.4)	14.9 (8.0)	0.3 (-1.7 to 2.3)	0.76	0.4 (-1.5 to 2.3)	0.69
- ≥ 1250 grams	17.8 (7.2)	17.5 (7.3)	0.3 (-1.3 to 2.0)	0.69	0.3 (-1.3 to 1.9)	0.73
Delayed recall raw score				†0.70		‡0.65
- < 1250 grams	7.1 (5.1)	6.4 (4.9)	0.8 (-0.5 to 2.0)	0.24	0.8 (-0.5 to 2.0)	0.22
- ≥ 1250 grams	8.0 (4.8)	7.6 (5.0)	0.4 (-0.6 to 1.5)	0.42	0.4 (-0.7 to 1.5)	0.46
Organisational raw score				†0.46		‡0.43
- < 1250 grams	3.3 (1.3)	3.2 (1.2)	0.1 (-0.2 to 0.5)	0.37	0.2 (-0.2 to 0.5)	0.33
- ≥ 1250 grams	3.4 (1.2)	3.4 (1.1)	-0.0 (-0.3 to 0.3)	0.95	-0.0 (-0.3 to 0.3)	0.95
<b>Fruit Stroop Test</b>						

<b>Outcome</b>	<b>High-DHA diet mean (SD) &lt;1250 g N= 132 ≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD) &lt;1250 g N= 139 ≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
Interference score				†0.53		‡0.52
- < 1250 grams	1.1 (5.9)	0.9 (5.4)	0.2 (-1.2 to 1.6)	0.80	0.2 (-1.2 to 1.6)	0.79
- ≥ 1250 grams	0.9 (5.8)	1.3 (5.4)	-0.4 (-1.7 to 0.8)	0.51	-0.4 (-1.7 to 0.8)	0.51
<b>Test of Visual Perception Skills</b>						
Visual discrimination standard score				†0.84		‡0.78
- < 1250 grams	7.8 (2.9)	7.7 (3.6)	0.1 (-0.8 to 0.9)	0.91	0.1 (-0.8 to 0.9)	0.87
- ≥ 1250 grams	8.3 (3.1)	8.4 (3.6)	-0.1 (-0.8 to 0.7)	0.86	-0.1 (-0.8 to 0.6)	0.82
Figure ground standard score				†0.98		‡0.98
- < 1250 grams	9.1 (3.7)	9.2 (4.2)	-0.2 (-1.2 to 0.8)	0.73	-0.2 (-1.2 to 0.8)	0.67
- ≥ 1250 grams	9.7 (3.9)	9.8 (4.3)	-0.2 (-1.1 to 0.8)	0.74	-0.2 (-1.1 to 0.7)	0.67
Visual closure standard score				†0.37		‡0.34
- < 1250 grams	7.5 (3.50)	7.7 (3.7)	-0.1 (-1.0 to 0.8)	0.77	-0.1 (-1.0 to 0.8)	0.83
- ≥ 1250 grams	7.6 (3.7)	8.3 (3.7)	-0.7 (-1.5 to 0.1)	0.10	-0.7 (-1.5 to 0.1)	0.10
<b>Wide Range Achievement Test 4<sup>th</sup> edition</b>						
Word reading standard score				†0.99		‡0.94
- < 1250 grams	101.4 (17.3)	100.6 (20.2)	0.8 (-4.0 to 5.6)	0.74	0.8 (-4.0 to 5.5)	0.75

<b>Outcome</b>	<b>High-DHA diet mean (SD) &lt;1250 g N= 132 ≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD) &lt;1250 g N= 139 ≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- ≥ 1250 grams	102.9 (14.9)	102.2 (16.8)	0.8 (-2.9 to 4.5)	0.69	0.5 (-3.1 to 4.2)	0.77
Spelling standard score				†0.66		‡0.59
- < 1250 grams	96.7 (17.1)	96.5 (17.9)	0.2 (-4.3 to 4.8)	0.92	0.2 (-4.3 to 4.6)	0.94
- ≥ 1250 grams	98.2 (15.8)	99.2 (16.4)	-1.1 (-4.7 to 2.6)	0.57	-1.4 (-4.9 to 2.2)	0.46
Math computation standard score				†0.75		‡0.69
- < 1250 grams	89.1 (15.7)	88.4 (16.1)	0.7 (-3.5 to 4.9)	0.74	0.8 (-3.4 to 5.0)	0.70
- ≥ 1250 grams	92.2 (14.2)	92.4 (13.8)	-0.14 (-3.5 to 3.2)	0.94	-0.37 (-3.5 to 2.9)	0.87
* Adjusted for sex and recruiting centre						
† Interaction test P-value unadjusted						
‡ Interaction test P-value adjusted						
§ Raw data used and inferential analysis not done due to small number of cases						

**Web appendix D. Subgroup analyses by birthweight <1250 grams or ≥1250 grams for the secondary parent reported health, wellbeing and education outcomes. Values are mean (SD) and treatment effects are mean difference based on imputed data unless otherwise indicated.**

<b>Outcome</b>	<b>High-DHA diet mean (SD)</b> <b>&lt;1250 g N= 132</b> <b>≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD)</b> <b>&lt;1250 g N= 139</b> <b>≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
<b>Behaviour Rating Inventory of Executive Functioning</b>						
Behavioural recognition scale				†0.69		‡0.72
- <1250 g	54.0 (13.4)	51.6 (12.4)	2.4 (-0.9 to 5.7)	0.16	2.3 (-1.0 to 5.6)	0.17
- ≥1250 g	53.4 (11.6)	51.9 (12.5)	1.5 (-1.3 to 4.3)	0.29	1.5 (-1.3 to 4.3)	0.28
-Inhibit scale				†0.90		‡0.85
- <1250 g	53.3 (12.3)	51.6 (12.0)	1.6 (-1.4 to 4.7)	0.30	1.5 (-1.6 to 4.6)	0.33
- ≥1250 g	53.4 (10.7)	51. (11.1)	1.9 (-0.7 to 4.4)	0.15	1.9 (-0.6 to 4.3)	0.13
-Shift scale				†0.39		‡0.41
- <1250 g	54.8 (14.0)	51.9 (13.1)	2.9 (-0.5 to 6.2)	0.09	2.8 (-0.5 to 6.2)	0.10
- ≥1250 g	52.6 (12.1)	51.6 (12.2)	1.0 (-1.8 to 3.9)	0.47	1.0 (-1.8 to 3.8)	0.47
-Emotional control scale				†0.75		‡0.76
- <1250 g	53.1 (13.2)	51.3 (12.2)	1.7 (-1.5 to 5.0)	0.29	1.7 (-1.6 to 4.9)	0.31

<b>Outcome</b>	<b>High-DHA diet mean (SD)</b> <b>&lt;1250 g N= 132</b> <b>≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD)</b> <b>&lt;1250 g N= 139</b> <b>≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- ≥1250 g	53.3 (11.6)	52.2 (13.1)	1.0 (-1.8 to 3.9)	0.48	1.0 (-1.8 to 3.9)	0.47
Metacognition index				†0.49		‡0.55
- <1250 g	56.6 (13.5)	54.8 (13.3)	1.7 (-1.7 to 5.1)	0.32	1.5 (-1.9 to 4.9)	0.38
- ≥1250 g	53.4 (11.7)	53.2 (12.5)	0.2 (-2.6 to 3.0)	0.89	0.2 (-2.6 to 3.0)	0.88
-Initiate scale				†0.48		‡0.51
- <1250 g	54.4 (12.76)	52.9 (12.0)	1.5 (-1.6 to 4.6)	0.35	1.4 (-1.8 to 4.5)	0.39
- ≥1250 g	52.1 (10.6)	52.0 (11.3)	0.1 (-2.5 to 2.6)	0.96	0.0 (-2.5 to 2.6)	0.97
-Working memory scale				†0.48		‡0.55
- <1250 g	57.5 (14.3)	56.3 (14.2)	1.3 (-2.3 to 4.8)	0.49	1.0 (-2.6 to 4.6)	0.57
- ≥1250 g	53.8 (12.4)	54.2 (13.3)	-0.4 (-3.3 to 2.5)	0.79	-0.3 (-3.2 to 2.5)	0.81
-Plan/organise scale				†0.33		‡0.37
- <1250 g	58.1 (13.9)	56.2 (13.6)	1.8 (-1.7 to 5.4)	0.31	1.6 (-1.9 to 5.1)	0.36
- ≥1250 g	54.2 (12.8)	54.7 (13.0)	-0.4 (-3.4 to 2.6)	0.78	-0.4 (-3.4 to 2.5)	0.78
-Organisation of materials scale				†0.36		‡0.35
- <1250 g	52.7(11.0)	52.5 (11.0)	0.1 (-2.8 to 3.0)	0.94	0.0 (-2.8 to 2.9)	0.98
- ≥1250 g	53.6 (10.5)	51.7 (10.8)	1.9 (-0.6 to 4.4)	0.15	1.9 (-0.7 4.4)	0.15
-Monitor scale				†0.46		‡0.51

Outcome	High-DHA diet mean (SD) <1250 g N= 132 ≥1250 g N= 159	Standard-DHA diet mean (SD) <1250 g N= 139 ≥1250 g N= 174	Unadjusted mean difference (95% CI)	Unadjusted P-value	Adjusted mean difference (95% CI)*	Adjusted P-value*
- <1250 g	54.7 (13.6)	53.2 (13.2)	1.5 (-1.8 to 4.9)	0.37	1.3 (-2.0 to 4.7)	0.44
- ≥1250 g	51.6 (12.0)	51.8 (13.0)	-0.1 (-3.1 to 2.8)	0.93	-0.1 (-3.0 to 2.8)	0.93
Global executive composite (total score)				†0.51		‡0.56
- <1250 g	56.2 (13.3)	54.1 (13.2)	2.1 (-1.3 to 5.6)	0.22	2.0 (-1.4 to 5.4)	0.25
- ≥1250 g	53.9 (11.7)	53.2 (12.7)	0.7 (-2.2 to 3.6)	0.64	0.7 (-2.1 to 3.5)	0.63
<b>Attention Deficit Hyperactivity Disorder (Conners 3<sup>TM</sup> AI-parent)</b>						
ADHD t score (total score)				†0.87		‡0.79
- <1250 g	66.9 (18.5)	65.9 (19.6)	1.0 (-3.8 to 5.7)	0.69	0.7 (-4.1 to 5.4)	0.79
- ≥1250 g	64.6 (18.5)	63.12(17.9)	1.5 (-2.6 to 5.6)	0.48	1.5 (-2.5 to 5.6)	0.46
<b>Strengths and Difficulties Questionnaire</b>						
Emotional symptoms scale score				†0.83		‡0.83
- <1250 g	2.5 (2.2)	2.3 (2.2)	0.2 (-0.3 to 0.8)	0.40	0.2 (-0.3 to 0.7)	0.41
- ≥1250 g	2.4 (2.2)	2.2 (2.1)	0.1 (-0.4 to 0.7)	0.58	0.1 (-0.4 to 0.6)	0.59
Conduct problems scale score				†0.75		‡0.83

Outcome	High-DHA diet mean (SD) <1250 g N= 132 ≥1250 g N= 159	Standard-DHA diet mean (SD) <1250 g N= 139 ≥1250 g N= 174	Unadjusted mean difference (95% CI)	Unadjusted P-value	Adjusted mean difference (95% CI)*	Adjusted P-value*
- <1250 g	2.2(2.0)	1.9 (1.8)	0.3 (-0.2 to 0.7)	0.26	0.3 (-0.2 to 0.7)	0.29
- ≥1250 g	2.1 (1.8)	1.9 (1.8)	0.2 (-0.3 to 0.6)	0.46	0.2 (-0.2 to 0.6)	0.40
Hyperactivity scale score				†0.48		‡0.32
- <1250 g	4.6 (2.8)	4.7 (3.0)	-0.1 (-0.8 to 0.6)	0.78	-0.1 (-0.8 to 0.5)	0.67
- ≥1250 g	4.3 (2.8)	4.0 (2.7)	0.2 (-0.4 to 0.9)	0.49	0.3 (-0.3 to 0.9)	0.31
Peer problems scale score				†0.99		‡0.98
- <1250 g	2.0 (2.0)	1.8 (1.8)	0.2 (-0.3 to 0.7)	0.37	0.2 (-0.3 to 0.7)	0.38
- ≥1250 g	1.7 (1.8)	1.5 (1.6)	0.2 (-0.2 to 0.6)	0.27	0.2 (-0.2 to 0.6)	0.26
Prosocial scale score				†0.65		‡0.72
- <1250 g	7.9 (2.1)	7.9 (2.0)	0.0 (-0.5 to 0.5)	0.92	0.0 (-0.5 to 0.5)	0.88
- ≥1250 g	8.4 (1.8)	8.2 (1.9)	0.2 (-0.2 to 0.6)	0.40	0.2 (-0.3 to 0.5)	0.45
Impact score				†0.96		‡0.97
- <1250 g	1.2 (2.1)	1.2 (1.9)	0.0 (-0.5 to 0.5)	0.91	0.0 (-0.5 to 0.5)	0.91
- ≥1250 g	0.7 (1.6)	0.7 (1.4)	0.0 (-0.3 to 0.3)	0.93	0.0 (-0.3 to 0.4)	0.82
Total difficulties score				†0.89		‡0.77
- <1250 g	11.3 (6.9)	10.7 (6.4)	0.6 (-1.0 to 2.3)	0.47	0.5 (-1.1 to 2.2)	0.52
- ≥1250 g	10.5 (6.6)	9.7 (6.1)	0.8 (-0.7 to 2.2)	0.31	0.9 (-0.6 to 2.3)	0.25

Outcome	High-DHA diet mean (SD) <1250 g N= 132 ≥1250 g N= 159	Standard-DHA diet mean (SD) <1250 g N= 139 ≥1250 g N= 174	Unadjusted mean difference (95% CI)	Unadjusted P-value	Adjusted mean difference (95% CI)*	Adjusted P-value*
<b>Health Utilities Index Mark 3  </b>						
Vision score				†0.65		‡0.67
- <1250 g	0.98 (0.06)	0.98 (0.10)	0.00 (-0.02 to 0.02)	0.67	0.00 (-0.02 to 0.02)	0.71
- ≥1250 g	0.99 (0.06)	0.99 (0.07)	-0.00 (-0.01 to 0.01)	0.86	-0.00 (-0.02 to 0.01)	0.82
Hearing score				†0.08		‡0.07
- <1250 g	0.99 (0.04)	1.00 (0.03)	-0.01 (-0.02 to 0.00)	0.12	-0.01 (-0.02 to 0.00)	0.11
- ≥1250 g	1.00 (0.01)	1.00 (0.05)	0.00 (-0.00 to 0.01)	0.36	0.00 (-0.00 to 0.01)	0.34
Speech score				†0.82		‡0.79
- <1250 g	0.96 (0.12)	0.94 (0.13)	0.02 (-0.01 to 0.05)	0.23	0.02 (-0.01 to 0.05)	0.22
- ≥1250 g	0.96 (0.11)	0.95 (0.14)	0.01 (-0.01 to 0.04)	0.32	0.01 (-0.01 to 0.04)	0.33
Ambulation score				†0.69		‡0.71
- <1250 g	0.99 (0.08)	0.99 (0.06)	-0.00 (-0.02 to 0.01)	0.65	-0.00 (-0.02 to 0.01)	0.63
- ≥1250 g	0.97 (0.13)	0.98 (0.11)	-0.01 (-0.04 to 0.02)	0.45	-0.01 (-0.04 to 0.02)	0.44
Dexterity score				†0.64		‡0.63
- <1250 g	0.99 (0.07)	1.00 (0.02)	-0.01 (-0.02 to 0.01)	0.41	-0.01 (-0.02 to 0.01)	0.39
- ≥1250 g	0.98 (0.10)	0.98 (0.12)	0.00 (-0.02 to 0.02)	0.94	0.00 (-0.02 to 0.02)	0.94
Emotion score				†0.24		‡0.23



<b>Outcome</b>	<b>High-DHA diet mean (SD) &lt;1250 g N= 132 ≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD) &lt;1250 g N= 139 ≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <1250 g	0.99 (0.04)	0.99 (0.04)	-0.00 (-0.01 to 0.01)	0.82	-0.00 (-0.01 to 0.01)	0.85
- ≥1250 g	0.99 (0.05)	0.99 (0.03)	-0.01 (-0.02 to -0.00)	0.04	-0.01 (-0.02 to -0.00)	0.04
<b>Cognition score</b>				†0.85		‡0.90
- <1250 g	0.92 (0.15)	0.93 (0.13)	-0.01 (-0.04 to 0.03)	0.59	-0.01 (-0.04 to 0.03)	0.59
- ≥1250 g	0.94 (0.13)	0.95 (0.12)	-0.01 (-0.03 to 0.02)	0.71	-0.01 (-0.03 to 0.02)	0.63
<b>Pain score</b>				†0.11		‡0.09
- <1250 g	0.99 (0.04)	0.99 (0.03)	0.00 (-0.01 to 0.01)	0.88	0.00 (-0.01 to 0.01)	0.85
- ≥1250 g	0.98 (0.07)	0.99 (0.03)	-0.01 (-0.02 to 0.00)	0.05	-0.01 (-0.02 to 0.00)	0.06
<b>Multiple attribute score</b>				†0.61		‡0.58
- <1250 g	0.89 (0.18)	0.89 (0.16)	-0.00 (-0.04 to 0.04)	0.90	-0.00 (-0.04 to 0.04)	0.91
- ≥1250 g	0.90 (0.19)	0.91 (0.18)	-0.02 (-0.06 to 0.02)	0.39	-0.02 (-0.06 to 0.02)	0.35
<b>Pediatric Quality of Life Inventory ¶</b>						
<b>Physical functioning score</b>				†0.09		‡0.08
- <1250 g	88.4 (15.2)	86.1 (17.3)	2.3 (-1.8 to 6.4)	0.28	2.3 (-1.9 to 6.4)	0.28
- ≥1250 g	86.2 (19.3)	88.9 (16.9)	-2.7 (-6.8 to 1.4)	0.19	-2.8 (-6.8 to 1.2)	0.17
<b>Emotional functioning score</b>				†0.96		‡0.95

<b>Outcome</b>	<b>High-DHA diet mean (SD) &lt;1250 g N= 132 ≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD) &lt;1250 g N= 139 ≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- <1250 g	74.8 (20.2)	77.5 (16.6)	-2.7 (-7.6 to 2.1)	0.27	-2.7 (-7.6 to 2.2)	0.28
- ≥1250 g	75.4 (18.1)	78.3 (16.4)	-2.9 (-7.1 to 1.3)	0.18	-2.9 (-7.1 to 1.2)	0.17
<b>Social functioning score</b>				†0.14		‡0.11
- <1250 g	80.3 (21.0)	79.8 (20.9)	0.5 (-4.7 to 5.6)	0.85	0.6 (-4.5 to 5.7)	0.82
- ≥1250 g	82.3 (19.5)	86.8 (17.4)	-4.5 (-8.7 to -0.3)	0.04	-4.7 (-8.8 to -0.6)	0.03
<b>School functioning score</b>				†0.45		‡0.35
- <1250 g	73.9 (18.8)	73.3 (20.5)	0.6 (-4.4 to 5.6)	0.81	0.9 (-4.0 to 5.8)	0.73
- ≥1250 g	76.9 (20.4)	78.9 (18.8)	-2.0 (-6.5 to 2.6)	0.39	-2.2 (-6.6 to 2.1)	0.31
<b>Psychosocial health summary score</b>				†0.36		‡0.30
- <1250 g	76.4 (16.7)	76.9 (16.3)	-0.5 (-4.8 to 3.7)	0.80	-0.4 (-4.6 to 3.8)	0.85
- ≥1250 g	78.2 (16.1)	81.3 (14.6)	-3.1 (-6.7 to 0.5)	0.09	-3.3 (-6.8 to 0.3)	0.07
<b>Physical health summary score</b>				†0.09		‡0.08
- <1250 g	88.4 (15.2)	86.1 (17.3)	2.3 (-1.8 to 6.4)	0.28	2.3 (-1.9 to 6.4)	0.28
- ≥1250 g	86.2 (19.3)	88.9 (16.9)	-2.7 (-6.8 to 1.4)	0.19	-2.8 (-6.8 to 1.2)	0.17
<b>Total score</b>				†0.19		‡0.16
- <1250 g	80.5 (14.9)	80.1 (14.9)	0.4 (-3.4 to 4.2)	0.83	0.5 (-3.3 to 4.3)	0.79

<b>Outcome</b>	<b>High-DHA diet mean (SD)</b> <b>&lt;1250 g N= 132</b> <b>≥1250 g N= 159</b>	<b>Standard-DHA diet mean (SD)</b> <b>&lt;1250 g N= 139</b> <b>≥1250 g N= 174</b>	<b>Unadjusted mean difference (95% CI)</b>	<b>Unadjusted P-value</b>	<b>Adjusted mean difference (95% CI)*</b>	<b>Adjusted P-value*</b>
- $\geq 1250$ g	81.0 (15.6)	84.0 (13.8)	-3.0 (-6.4 to 0.4)	0.09	-3.1 (-6.5 to 0.2)	0.07
<b>Number (%) of children who repeated a school year§</b>				†0.93		‡0.95
- <1250 g	14 (10.9)	8 (6.1)	1.8 (0.78 to 4.7)	0.24	1.7 (0.76 to 4.3)	0.27
- $\geq 1250$ g	5 (3.2)	3 (2.0)	1.7 (0.4 to 6.9)	0.49	1.8 (0.4 to 7.3)	0.43

\* Adjusted for sex and recruiting centre  
† Interaction test P-value unadjusted  
‡ Interaction test P-value adjusted  
§ Treatment effects are relative risk based on imputed data