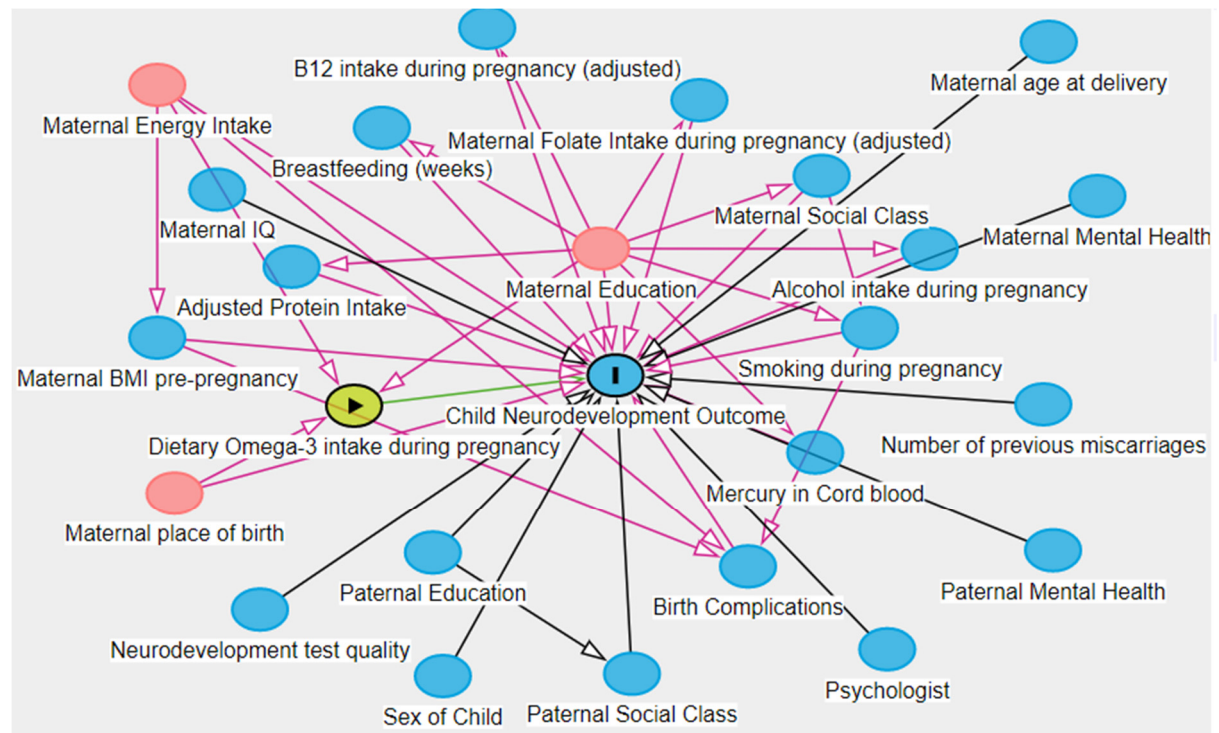# Supplementary Material

Supplementary Figure S1. Directed Acyclic Graph (DAG) for investigating causal pathways between Child Neuropsychological Outcome and Maternal Dietary omega-3 intake during pregnancy.

Supplementary Table S1. Extended Baseline Characteristics of the study participants according to the quartiles of dietary omega-3 fatty acids Consumption in the First Trimester of Pregnancy.

	Quartiles of Dietary Omega[b] 3 Intake at 1st Trimester[*]				p values
	1	2	3	4	
	(n=645)[a]	(n=645)[a]	(n=645)[a]	(n=647)[a]	
Father Education Level, n (%)					0.535
Primary or Less	240 (37.68)	217 (33.85)	235 (36.60)	226 (35.15)	
Secondary School	271 (42.54)	275 (42.90)	277 (43.15)	292 (45.41)	
University or More	126 (19.78)	149 (23.24)	130 (20.25)	125 (19.44)	
Social Class of Father, n (%)					0.106
Highly Skilled	120 (19.17)	145 (22.83)	121 (18.94)	111 (17.82)	
Non-Manual	92 (14.70)	104 (16.38)	118 (18.47)	119 (19.10)	
Manual	414 (66.13)	386 (60.79)	400 (62.60)	393 (63.08)	
Living situation , n (%)					0.821
Live with father's child	630 (97.67)	632 (97.98)	636 (98.15)	641 (99.07)	
Live with partner.	1 (0.16)	1 (0.15)	1 (0.15)	0 (0)	
Live with her parents	11 (1.71)	9 (1.40)	7 (1.08)	5 (0.77)	
Live Alone	1 (016)	2 (0.31)	3 (0.46)	0 (0)	
Others	2 (0.31)	1 (0.16)	1 (0.15)	1 (0.15)	
Mental Health of Mother[c], n (%)					0.657
<42	82 (25.79)	73 (21.41)	98 (26.42)	90 (26.01)	
42-48	80 (25.16)	102 (29.91)	85 (22.91)	82 (23.70)	
48-56	76 (23.90)	84 (24.63)	92 (24.80)	83 (23.99)	
>56	80 (25.16)	82 (24.05)	96 (25.88)	91 (26.30)	
Mental Health of Father[c], n (%)					0.355
<42	92 (24.47)	76 (19.14)	101 (23.60)	112 (25.87)	
42-48	89 (23.67)	112 (28.21)	119 (27.80)	121 (27.94	
48-55	88 (23.40)	96 (24.18)	103 (24.07)	99 (22.86)	
>55	107 (28.46)	113 (28.46)	105 (24.53)	101 (23.33)	
Maternal IQ , mean (SD)	9.81 (3.02)	9.86 (2.98)	10.13 (3.08)	9.95 (2.79)	0.417
Paternal IQ , mean (SD)	9.56 (2.96)	9.75 (3.09)	9.97 (3.01)	10.02 (2.75)	0.721
Paternal smoking in presence of child[d], n (%)					0.417
Yes	29 (14.15)	34 (17.26)	26 (11.93)	27 (12.68)	
No	176 (85.85)	163 (82.74)	192 (88.07)	186 (87.32)	
Protein Intake (g/day)[b], mean (SD)	89.33 (12.65)	93.14 (11.88)	96.48 (11.67)	102.24 (14.57)	0.001
B12 intake (mg/day)[b] , mean (SD)	18.53 (167.37)	15.00 (63.80)	10.75 (18.18)	18.14 (74.81)	0.448
Iron intake (mg/day)[b] , mean (SD)	16.48 (12.97)	16.56 (12.44)	15.97 (12.17)	16.18 (10.33)	0.802
Folate intake (mg/day)[b] , mean (SD)	1953.46 (2647.17)	1935.31 (2644.05)	2116.75 (2718.40)	2181.06 (2842.70)	0.277
Omega-6 intake (g/day)[b] , mean (SD)	11.75 (3.47)	12.30 (3.01)	12.79 (3.01)	13.39 (3.33)	0.001
Dietary Omega-6 /-3 ratio[b], mean (SD)	10.62 (3.33)	9.11 (2.20)	8.31 (1.92)	6.96 (1.86)	0.001
DHA intake (g/day)[b], mean (SD)	0.12 (0.06)	0.19 (0.07)	0.26 (0.09)	0.43 (0.21)	0.001
Omega-3 supplementation during pregnancy, n (%)					0.349
No	619 (95.97)	609 (94.42)	618 (95.37)	608 (93.97)	
Yes	26 (4.03)	36 (5.58)	30 (4.63)	39 (6.03)	
Dietary + Supplementation Omega 3 intake mean (SD) (g/day)[b]	3.399 (17.98)	4.58 (16.91)	4.44 (19.29)	5.44 (19.02)	0.258
aMED Score , mean (SD)	3.48 (1.45)	3.81 (1.57)	4.08 (1.67)	4.22 (1.50)	0.001

Preterm					0.836
Yes	32 (5.24)	26 (4.25)	27 (4.33)	29 (4.73)	
No	579 (94.76)	586 (95.75)	597 (95.67)	584 (95.27)	
Country of birth of mother, n (%)					0.001
Spain	550 (85.27)	588 (91.30)	614 (94.75)	612 (94.88)	
Other	95 (14.73)	56 (8.70)	34 (5.25)	33 (5.12)	
Cohort Location, n (%)					0.001
Asturias	103 (15.97)	95 (14.73)	115 (17.75)	169 (26.12)	
Gipuzkoa	183 (28.37)	170 (26.36)	155 (23.92)	119 (18.39)	
Sabadell	123 (19.07)	149 (23.10)	187 (28.86)	195 (30.14)	
Valencia	236 (36.59)	231 (35.81)	191 (29.48)	164 (25.35)	
Mercury in Cord blood (µg/L), mean (SD)	8.86 (6.81)	11.06 (9.42)	11.62 (9.77)	12.31 (9.12)	0.001
Omega 3 % in cord blood					
ALA in %, mean (SD)	0.09 (0.07)	0.11 (0.11)	0.11 (0.12)	0.10 (0.09)	0.256
EPA in %, mean (SD)	0.23 (0.19)	0.23 (0.17)	0.24 (0.20)	0.23 (0.15)	0.993
DHA in %, mean (SD)	5.10 (1.72)	5.15 (1.65)	5.05 (1.59)	5.14 (1.70)	0.915
Child Characteristics					
Omega 3 intake at 4 year of age , mean (SD)	0.96 (0.21)	1.01 (0.21)	1.03 (0.20)	1.05 (0.21)	0.000
Low birthweight, n (%) 0.347					
Yes	582 (95.10)	585 (95.12)	584 (93.59)	590 (95.78)	
No	30 (4.90)	30 (4.88)	40 (6.41)	26 (4.22)	

[*]**1st quartile:** *<1.262g/day.* **2nd quartile:** *1.262g-1.440g/day.* **3rd quartile:** *1.440g-1.657g/day.* **4th quartile:** *>1.657g/day*
[a] Some categories may be missing values so therefore totals may not match total number of subjects
[b]Adjusted for energy intake
[c]Global Severity Index the Symptom Checklist-90-R, T Score
[d]Yes = "often"+"sometimes". No = "no"+hardley ever"

Supplementary Table S2 . Baseline Characteristics of the study participants according to the quartiles of dietary omega-3 fatty acids Consumption in the 3rd Trimester of Pregnancy.

	Quartiles of Dietary Omega-3[b] Intake at 3rd Trimester[*]				p values
	1 (n=612)[a]	2 (n=610)[a]	3 (n=611)[a]	4 (n=610)[a]	
Age (years)[c], mean (SD)	31.36 (4.53)	31.89 (4.16)	32.19 (4.19)	32.35 (4.00)	0.001
Mother Education Level, n (%)					0.001
Primary or Less	186 (30.44)	134 (22.00)	147 (24.14)	125 (20.49)	
Secondary School	237 (38.79)	246 (40.39)	241 (29.57)	289 (47.38)	
University or More	188 (30.77)	229 (37.60)	221 (36.29)	196 (32.13)	
Father Education Level, n (%)					0.005
Primary or Less	252 (41.65)	192 (31.79)	209 (34.60)	203 (33.28)	
Secondary School	228 (37.69)	281 (46.52)	279 (46.19)	284 (46.56)	
University or More	125 (20.66)	131 (21.69)	116 (19.21)	123 (20.16)	
Social Class of Mother, n (%)			0.000		
Highly Skilled	112 (18.33)	147 (24.10)	156 (25.53)	109 (17.87)	
Non-Manual	145 (23.73)	160 (26.23)	145 (23.73)	187 (20.66)	
Manual	354 (57.94)	303 (49.67)	310 (50.74)	314 (51.48)	
Social Class of Father, n (%)					0.215
Highly Skilled	106 (17.79)	134 (22.60)	119 (19.73)	114 (19.32)	
Non-Manual	99 (16.61)	95 (16.02)	101 (16.75)	118 (20.00)	
Manual	391 (65.90)	364 (61.38)	383 (63.52)	358 (60.68)	
Living situation , n (%)					0.288
Live with father's child	598 (97.71)	599 (98.20)	598 (98.03)	604 (99.02)	
Live with partner	1 (0.16)	1 (0.16)	1 (0.16)	0 (0.00)	
Live with her parents	9 (1.47)	9 (1.48)	5 (0.82)	6 (0.98)	
Live Alone	1 (0.16)	1 (0.16)	4 (0.66)	0 (0.00)	
Others	3 (0.49)	0 (0.00)	2 (0.33)	0 (0.00)	
Mental Health of Mother[d], n (%)					0.970
<42	82 (25.62)	87 (25.44)	77 (22.71)	95 (26.32)	
42-48	87 (27.19)	83 (24.27)	86 (25.37)	87 (24.10)	
48-56	75 (23.44)	83 (24.27)	83 (24.48)	88 (24.38)	
>56	76 (23.75)	89 (26.02)	93 (27.43)	91 (25.21)	
Mental Health of Father[d], n (%)					0.782
<42	84 (22.22)	93 (23.85)	94 (23.15)	103 (23.57)	
42-48	104 (27.51)	103 (26.41)	102 (25.12)	125 (28.60)	
48-55	82 (21.69)	92 (23.59)	98 (24.14)	110 (25.17)	
>55	108 (28.57)	102 (26.15)	112 (27.59)	99 (22.65)	
Maternal IQ , mean (SD)	9.58 (3.04)	10.24 (3.10)	10.08 (2.85)	9.88 (2.84)	0.009
Paternal IQ , mean (SD)	9.98 (3.04)	9.78 (2.60)	9.67 (3.26)	9.87 (2.84)	0.907
Smoking during pregnancy, n (%)					0.247
Yes	115 (18.82)	98 (16.12)	91 (14.92)	110 (18.06)	
No	496 (81.18)	510 (83.88)	519 (85.08)	499 (81.94)	
Paternal smoking in presence of child[e], n (%)					0.247
Yes	26 (13.20)	34 (16.83)	35 (15.70)	21 (10.40)	
No	171 (86.80)	168 (83.17)	188 (84.30)	181 (89.60)	
Alcohol Consumption during Third Trimester, n (%)					0.009
Yes	415 (67.81)	369 (60.49)	369 (60.39)	363 (59.51)	
No	197 (32.19)	241 (39.51)	242 (39.61)	247 (40.49)	
Energy intake (kcals/day), mean (SD)	2083.84 (568.14)	2069.14 (522.04)	2091.94 (550.49)	2065.92 (557.35)	0.822
Protein Intake (g/day)[b], mean (SD)	89.21 (12.23)	92.07 (11.93)	95.44 (12.24)	101.46 (13.99)	0.000
B12 intake (mg/day)[b],	16.66	15.97	18.50	20.45	0.738

mean (SD)	(74.76)	(67.51)	(78.09)	(85.18)	
Iron intake (mg/day)[b], 0.455 mean (SD)	32.29 (29.05)	31.43 (30.01)	30.00 (28.97)	32.36 (28.43)	
Folate intake (mg/day)[b], mean (SD)	1813.56 (2890.11)	1652.19 (2696.95)	1575.29 (2563.99)	1954.52 (3041.79)	0.083
Omega-6 intake (g/day)[b], mean (SD)	11.14 (3.44)	11.82 (3.31)	11.96 (2.57)	12.50 (3.02)	0.001
Dietary Omega-6 /-3 ratio[b], mean (SD)	10.39 (3.59)	9.01 (2.57)	8.00 (1.71)	6.74 (1.66)	0.001
DHA intake (grams)[b], mean (SD)	0.13 (0.06)	0.19 (0.07)	0.26 (0.09)	0.43 (0.20)	0.001
Omega-3 supplementation during Pregnancy, n (%)					0.312
Yes	23 (3.76)	31 (5.08)	36 (5.89)	35 (5.74)	
No	589 (96.24)	579 (94.92)	575 (94.11)	575 (94.26)	
Dietary + Supplementation Omega 3 intake (g/day), mean (SD) [b]	13.81 (57.49)	13.35 (53.17)	12.36 (46.05)	13.52 (48.34)	0.965
aMED Score , mean (SD)	3.47 (1.45)	3.75 (1.51)	3.97 (1.61)	4.16 (1.51)	0.001
Preterm, n (%)					0.287
Yes	31 (5.15)	21 (3.51)	21 (3.52)	22 (2.64)	
No	571 (94.85)	578 (96.49)	575 (96.48)	583 (96.36)	
Mother BMI pre-pregnancy, mean (SD)	23.52 (4.57)	23.35 (4.15)	23.69 (4.19)	23.70 (4.36)	0.450
Number of previous miscarriages , n (%)					0.198
0	462 (75.61)	484 (79.34)	454 (74.30)	468 (76.72)	
1 or more	149 (24.39)	126 (20.66)	157 (25.70)	142 (23.28)	
Country of birth of mother, n (%)					0.001
Spain	531 (86.76)	567 (92.95)	558 (91.78)	580 (95.24)	
Other	81 (13.24)	43 (7.05)	50 (8.22)	29 (4.76)	
Cohort Location, n (%)					0.001
Asturias	89 (14.54)	94 (15.41)	109 (17.84)	153 (25.08)	
Gipuzkoa	157 (25.65)	172 (28.20)	152 (24.88)	115 (18.85)	
Sabadell	128 (20.92)	144 (23.61)	167 (27.33)	176 (28.85)	
Valencia	238 (38.89)	200 (32.79)	183 (29.95)	166 (27.21)	
Mercury in Cord blood (µg/L), mean (SD)	8.66 (7.50)	10.28 (8.09)	11.58 (8.97)	13.56 (10.30)	0.001
Omega 3 % in cord blood , mean (SD)					
ALA in cord blood	0.10 (0.10)	0.10 (0.10)	0.11 (0.11)	0.10 (0.10)	0.888
EPA in cord blood	0.22 (0.18)	0.25 (0.21)	0.24 (0.18)	0.23 (0.15)	0.365
DHA in cord blood	4.97 (1.64)	5.25 (1.64)	5.12 (1.76)	5.11 (1.58)	0.372
Cord Blood Omega 6(AA)/ Omega 3 (EPA+DHA) ratio, mean (SD)	3.04 (0.911)	2.87 (0.79)	2.89 (0.79)	2.88 (0.79)	0.091
Breastfeeding (weeks), n (%)					0.690
0	84 (15.33)	79 (14.18)	72 (12.70)	89 (15.48)	
>0-16	152 (27.74)	138 (24.78)	137 (24.16)	142 (24.70)	
>16-24	79 (14.42)	96 (17.24)	91 (16.05)	91 (15.83)	
>24	233 (42.52)	244 (43.81)	267 (47.09)	253 (44.00)	
Child Characteristics					
Sex , n (%)					0.896
Female	290 (47.93)	299 (49.34)	297 (49.34)	290 (47.62)	
Male	315 (52.07)	307 (50.66)	305 (50.66)	319 (52.38)	
Omega 3 intake at 4 year of age, mean (SD)	0.97 (0.21)	1.00 (0.19)	1.02 (0.20)	1.06 (0.21)	0.001
Birthweight , n (%)					0.401
<3000g	162 (26.91)	167 (27.65)	159 (26.63)	163 (26.85)	
3000-3500g	276 (45.85)	277 (45.86)	273 (45.73)	250 (41.19)	
<3500g	164 (27.24)	160 (26.49)	165 (27.64)	194 (31.96)	
Low birthweight , n (%)					0.873

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Yes	29 (4.82)	31 (5.13)	25 (4.19)	27 (4.45)
No	573 (95.18)	573 (94.87)	572 (95.81)	580 (95.55)

[*]**1st quartile:** *<1.219g.* **2nd quartile:** *1.219g-1.399g.* **3rd quartile:** *1.399g-1.599g.* **4th quartile:** *>1.599g*
[a] Some categories may be missing values so therefore totals may not match total number of subject
[b]Adjusted for energy intake
[c]Maternal Age at Delivery
[d]Global Severity Index the Symptom Checklist-90-R, T Score
[e]Yes = "often"+"sometimes". No = "no"+hardley ever"

Supplementary Table S3. Mean test scores and standard deviation (SD) from Bayley Scales of Infant Development at 1 Year of Age according to maternal omega-3 intake frequency during the first and third trimester of pregnancy.

	Quartiles of Dietary Omega-3[b] Intake at 1st Trimester				p values
	1 (n=539)	2 (n=555)	3 (n=551)[a]	4 (n=552)	
Mental Score[a]	99.83 (15.12)	98.90 (15.38)	100.75 (15.01)	100.12 (15.31)	0.235
Motor Score[a]	100.31 (15.10)	99.43 (15.34)	99.78 (14.78)	99.87 (15.18)	0.814
	Quartiles of Dietary Omega-3[b] Intake at 3rd Trimester				p values
	1 (n = 528)	2 (n = 545) (n = 549)	3 (n = 542)	4	
Mental Score[a]	99.83 (15.63)	100.04 (15.12)	99.82 (15.57)	99.96 (14.50)	0.994
Motor Score[a]	100.67 (15.51)	99.94 (15.30)	99.92 (14.83)	98.59 (14.69)	0.148

[a]Index score centered to 100 and standard deviation of 15
[b]Adjusted for energy intake

Supplementary Table S4. Extended mean test scores and standard deviation (SD) from McCarthy Scales of Children's Abilities (MSCA) at 4 year of age according to maternal omega-3 intake frequency during the first and third trimester of pregnancy.

	Quartiles of Dietary Omega-3[b] Intake at 1st Trimester				p values
	1 (n=422)	2 (n=444)	3 (n=468)	4 (n=461)	
Perceptive Performance[a]	99.24 (14.75)	101.12 (15.18)	100.13 (14.53)	100.42 (14.98)	0.311
Numerical[a]	99.00 (14.52)	100.69 (15.89)	100.59 (14.11)	100.73 (14.98)	0.253
Memory[a]	98.67 (14.57)	100.65 (14.80)	100.55 (14.28)	100.74 (15.98)	0.127
Motor[a]	99.66 (15.66)	100.89 (15.30)	100.13 (14.16)	100.08 (14.59)	0.674
	Quartiles of Dietary Omega-3[b] Intake at 3rd Trimester				p values
	1 (n=419)	2 (n=426)	3 (n=448)	4 (n=467)	
General Cognitive[a]	98.78 (15.68)	100.47 (14.19)	100.98 (14.63)	100.62 (14.59)	0.132
Verbal[a]	99.50 (15.11)	100.29 (14.49)	100.98 (15.00)	99.80 (15.06)	0.476
Perceptive Performance[a]	98.67 (15.95)	100.49 (14.04)	100.69 (14.68)	100.96 (14.48)	0.096
Numerical[a]	98.71 (15.31)	100.51 (14.72)	100.62 (14.94)	100.90 (14.51)	0.123
Memory[a]	99.22 (14.66)	100.50 (15.14)	100.23 (15.14)	100.44 (14.92)	0.565
Motor[a]	98.83 (15.44)	100.52 (13.75)	100.64 (14.82)	100.64 (15.32)	0.209
Executive Function[a]	98.77 (15.73)	100.50 (13.92)	101.09 (14.96)	100.54 (14.62)	0.115

[a]Score centered to 100 and standard deviation of 15

[b]Adjusted for energy intake

Supplementary Table S5. Extended mean test scores and standard deviation (SD) from Attention Network Test of Children's Abilities 7 year of age according to maternal omega-3 intake frequency during the first and third trimester of pregnancy.

	Quartiles of Dietary Omega-3[b] Intake at 1st Trimester				p values
	1 (n=379)	2 (n=411)	3 (n=444)	4 (n=421)	
Alerting Network ANT	48.85 (103.48)	52.46 (98.12)	48.76 (92.34)	49.71 (86.21)	0.934
Alerting Johnson	52.41 (128.34)	56.00 (138.79)	50.58 (116.00)	54 (115.17)	0.922
Orienting network ANT	32.02 (89.62)	34.77 (83.84)	32.19 (86.81)	42.95 (87.88)	0.225
Orienting Johnson	27.39 (117.29)	32.84 (109.30)	26.43 (117.48)	41.16 (113.96)	0.224
Conflict network ANT	84.84 (81.21)	73.03 (77.82)	82.69 (85.31)	79.94 (80.01)	0.183

	Quartiles of Dietary Omega-3[b] Intake at 3rd Trimester				p values
	1 (n=372)	2 (n=401)	3 (n=424)	4 (n=426)	
Alerting network ANT	48.11	51.58	49.21	50.88	0.955
Alerting Johnson	56.42 (132.55)	48.90 (124.59)	50.22 (123.35)	58.03 (120.30)	0.661
Orienting network ANT	33.57 (85.47)	34.27 (81.71)	36.09 (87.56)	38.10 (94.23)	0.884
Orienting Johnson	24.96 (115.41)	33.22 (110.93)	30.70 (115.27)	38.25 (117.93)	0.432
HRT-SE	308.69 (85.32)	308.89 (80.85)	309.01 (79.83)	301.32 (83.44)	0.450
Conflict network ANT	78.94 (81.88)	78.92 (80.92)	79.58 (74.73)	84.61 (87.83)	0.701

[b]Adjusted for energy intake

Supplementary Table S6. Extended multivariable regression analysis: Associations between maternal omega-3 consumption in the first trimester of pregnancy and child's scores on Bayley Scales of Infant Development (BSID) at 1 year of age, McCarthy Scales of Children's Abilities (MSCA) at 4 year of age and Attention Network Test of Children's Abilities (ANT) at 7 year of age.

Neuropsychological Outcome	No. of Subjects	Difference in child's neuropsychological score					
		Minimally adjusted*			Fully adjusted*		
		β	(95% CI)	P	β	(95% CI)	P
BSID							
Mental Score							
First quartile	520	ref			ref		
Second quartile	530	-1.16	(-2.72, 0.40)	0.145	-1.00	(-2.60, 0.60)	0.220
Third quartile	523	0.51	(-1.06, 2.08)	0.524	0.45	(-1.17, 2.07)	0.586
Fourth quartile	531	0.37	(-1.20, 1.95)	0.640	0.33	(-1.29, 1.98)	0.679
Motor Score							
First quartile	520	ref			ref		
Second quartile	530	-1.01	(-2.72, 0.70)	0.247	-0.66	(-2.40, 1.08)	0.459
Third quartile	523	-0.77	(-2.49, 0.96)	0.383	-0.61	(-2.38, 1.16)	0.500
Fourth quartile	531	-0.47	(-2.20, 1.26)	0.597	-0.25	(-2.02, 1.53)	0.785
MSCA							
Perceptive Performance							
First quartile	409	ref			ref		
Second quartile	425	1.79	(-0.08, 3.66)	0.061	1.35	(-0.49, 3.21)	0.152
Third quartile	443	0.86	(-1.00, 2.71)	0.366	0.39	(-1.46, 2.24)	0.678
Fourth quartile	436	1.33	(-0.55, 3.21)	0.164	0.94	(-0.95, 2.82)	0.330
Numerical							
First quartile	409	ref			ref		
Second quartile	425	1.59	(-0.35, 3.53)	0.108	1.02	(-0.90, 2.95)	0.298
Third quartile	443	1.62	(-0.31, 3.54)	0.100	0.95	(-0.97, 2.88)	0.331
Fourth quartile	436	1.75	(-0.19, 3.70)	0.078	1.00	(-0.95, 2.96)	0.313
Memory							
First quartile	409	ref			ref		
Second quartile	425	1.89	(-0.06, 3.83)	0.057	1.4	(-0.55, 3.35)	0.160
Third quartile	443	2.00	(0.08, 3.93)	0.042	1.63	(-0.32, 3.58)	0.101
Fourth quartile	436	2.15	(0.19, 4.09)	0.031	1.89	(-0.09, 3.87)	0.061
Motor							
First quartile	409	ref			ref		
Second quartile	425	1.02	(-0.90, 2.94)	0.296	0.78	(-1.17, 2.72)	0.432
Third quartile	443	0.36	(-1.54, 2.26)	0.713	0.01	(-1.93, 1.96)	0.988
Fourth quartile	436	0.49	(-1.44, 2.40)	0.625	0.002	(-1.97, 1.98)	0.998
ANT							
Alerting network							
First quartile	363	ref			ref		
Second quartile	392	3.92	(-9.36, 17.21)	0.563	6.59	(-7.21, 20.40)	0.349
Third quartile	421	0.45	(-12.65, 13.55)	0.947	1.83	(-11.83, 15.50)	0.792
Fourth quartile	398	1.72	(-11.66, 15.10)	0.801	2.90	(-11.17, 16.97)	0.686
Alerting Johnson							
First quartile	363	ref			ref		
Second quartile	392	3.83	(-13.62, 21.27)	0.667	4.28	(-13.84, 22.39)	0.644
Third quartile	421	-1.90	(-19.11, 15.30)	0.828	-0.44	(-18.38, 17.49)	0.961
Fourth quartile	398	1.56	(-16.01, 19.13)	0.862	1.58	(-16.89, 20.05)	0.867
Orienting network ANT							
First quartile	363	ref			ref		
Second quartile	392	2.98	(-9.19, 15.15)	0.631	4.52	(-8.11, 17.14)	0.483
Third quartile	421	1.08	(-10.92, 13.09)	0.860	1.45	(-11.04, 13.95)	0.820
Fourth quartile	398	12.06	(-0.20, 24.32)	0.054	12.33	(-0.54, 25.20)	0.061
Orienting Johnson				0.687			0.766
First quartile	363	ref			ref		
Second quartile	392	5.60	(-10.44, 21.64)	0.493	5.63	(-10.94, 22.19)	0.505
Third quartile	421	-0.59	(-16.41, 15.24)	0.942	-3.57	(-19.96, 12.83)	0.670
Fourth quartile	398	13.58	(-2.58, 29.74)	0.099	14.36	(-2.52, 31.25)	0.095
Conflict network ANT							
First quartile	363	ref			ref		
Second quartile	392	-12.26	(-23.52, -1.01)	0.033	-13.83	(-25.48, -2.18)	0.020
Third quartile	421	-3.50	(-14.60, 7.60)	0.536	-3.19	(-14.72, 8.34)	0.587
Fourth quartile	398	-4.55	(-15.88, 6.79)	0.432	-4.09	(-15.97, 7.78)	0.499

Supplementary Table S7. Multivariable regression analysis: Associations between maternal omega-3 consumption in the third trimester of pregnancy and child's scores on Bayley Scales of Infant Development (BSID) at 1 year of age, McCarthy Scales of Children's Abilities (MSCA) at 4 year of age and Attention Network Test of Children's Abilities (ANT) at 7 year of age.

Neuropsychological Outcome		No. of Subjects	Difference in child's neuropsychological score					
			Minimally adjusted*			Fully adjusted*		
			β	(95% CI)	P	β	(95% CI)	P
BSID		2104						
Mental Score					*0.000			*0.000
	First quartile	511	ref			ref		
	Second quartile	530	-0.38	(-1.96, 1.21)	0.641	-0.65	(-2.27, 0.96)	0.430
	Third quartile	531	0.25	(-1.34, 1.83)	0.760	0.20	(-1.41, 1.82)	0.804
	Fourth quartile	533	0.60	(-1.00, 2.19)	0.463	0.52	(-1.12, 2.15)	0.535
Motor Score								
	First quartile	511	ref			ref		
	Second quartile	530	-1.10	(-2.83, 0.63)	0.211	-0.91	(-2.66, 0.85)	0.311
	Third quartile	531	-0.66	(-2.39, 1.07)	0.454	-0.80	(-2.56, 0.95)	0.369
	Fourth quartile	533	-1.84	(-3.58, -0.10)	0.039	-1.56	(-3.34, 0.21)	0.084
MSCA Scores								
General Cognitive								
	First quartile	405	ref			ref		
	Second quartile	417	1.57	(-0.34, 3.48)	0.107	0.40	(-1.46, 2.25)	0.67
	Third quartile	432	2.07	(0.18, 3.96)	0.032	1.84	(0.009, 3.67)	0.049
	Fourth quartile	456	2.02	(0.14, 3.89)	0.035	0.99	(-0.84, 2.82)	0.290
Verbal								
	First quartile	405	ref			ref		
	Second quartile	417	0.73	(-1.25, 2.70)	0.470	-0.22	(-2.17, 1.73)	0.823
	Third quartile	432	1.38	(-0.57, 3.34)	0.165	1.39	(-0.54, 3.31)	0.158
	Fourth quartile	456	0.43	(-1.51, 2.37)	0.666	-0.37	(-2.30, 1.55)	0.705
Perceptive Performance								
	First quartile	405	ref			ref		
	Second quartile	417	1.65	(-0.25, 3.55)	0.088	0.75	(-1.13, 2.63)	0.436
	Third quartile	432	1.89	(0.01, 3.77)	0.048	1.53	(-0.33, 3.38)	0.107
	Fourth quartile	456	2.43	(0.57, 4.30)	0.001	1.56	(-0.30, 3.42)	0.099
Numerical								
	First quartile	405	ref			ref		
	Second quartile	417	1.76	(-0.21, 3.72)	0.080	0.58	(-1.37, 2.54)	0.558
	Third quartile	432	1.82	(-0.12, 3.77)	0.066	1.51	(-0.42, 3.44)	0.126
	Fourth quartile	456	2.36	(0.43, 4.30)	0.017	1.40	(-0.53, 3.33)	0.154
Memory								
	First quartile	405	ref			ref		
	Second quartile	417	1.24	(-0.74, 3.22)	0.218	0.28	(-1.70, 2.26)	0.785
	Third quartile	432	0.95	(-1.00, 2.91)	0.338	0.68	(-1.30, 2.63)	0.498
	Fourth quartile	456	1.39	(-0.55, 3.33)	0.160	0.69	(-1.26, 2.65)	0.486
Motor								
	First quartile	405	ref			ref		
	Second quartile	417	1.67	(-0.27, 3.61)	0.091	1.04	(-0.93, 3.01)	0.300
	Third quartile	432	1.69	(-0.22, 3.61)	0.083	1.28	(-0.66, 3.22)	0.196
	Fourth quartile	456	2.05	(0.15, 3.95)	0.035	1.41	(-0.53, 3.36)	0.153
Executive Function								
	First quartile	405	ref			ref		
	Second quartile	417	1.66	(-0.28, 3.61)	0.094	0.34	(-1.55, 2.23)	0.724
	Third quartile	432	2.18	(0.26, 4.11)	0.026	1.94	(0.08, 3.81)	0.041
	Fourth quartile	456	1.96	(0.05, 3.87)	0.044	0.66	(-1.20, 2.53)	0.485
ANT								
Alerting network								
	First quartile	356	ref			ref		
	Second quartile	392	4.21	(-9.25, 17.69)	0.540	2.19	(-11.74, 16.12)	0.75
	Third quartile	408	2.35	(-10.96, 15.67)	0.729	1.93	(-11.84, 15.70)	0.783
	Fourth quartile	418	3.61	(-9.72, 16.93)	0.596	2.03	(-11.77, 15.82)	0.773
Alerting Johnson								
	First quartile	356	ref			ref		
	Second quartile	392	-6.67	(-24.38, 11.03)	0.460	-11.05	(-29.35, 7.25)	0.237
	Third quartile	408	-5.26	(-22.76, 12.24)	0.556	-7.44	(-25.52, 10.64)	0.420

		N	β[a]	(95% CI)	p	β[b]	(95% CI)	p
	Fourth quartile	418	1.52	(-15.99, 19.04)	0.864	-0.06	(-18.17, 18.06)	0.995
Orienting network ANT								
	First quartile	356	ref			ref		
	Second quartile	392	1.20	(-11.19, 13.58)	0.850	1.32	(11.46, 14.10)	0.839
	Third quartile	408	2.87	(-9.37, 15.10)	0.646	3.60	(-9.02, 16.23)	0.576
	Fourth quartile	418	4.76	(-7.48, 17.01)	0.446	6.26	(-6.34, 18.91)	0.332
Orienting Johnson								
	First quartile	356	ref			ref		
	Second quartile	392	8.50	(-7.78, 24.77)	0.306	5.51	(-11.21, 22.24)	0.518
	Third quartile	408	5.60	(-10.48, 21.69)	0.494	4.91	(-11.61, 21.44)	0.560
	Fourth quartile	418	13.11	(-2.98, 29.21)	0.110	13.05	(-3.50, 29.61)	0.122
HRT-SE								
	First quartile	356	ref			ref		
	Second quartile	392	-0.85	(-11.92, 10.22)	0.880	1.19	(-10.13, 12.50)	0.837
	Third quartile	408	2.37	(-8.56, 13.31)	0.670	3.55	(-7.63, 14.73)	0.533
	Fourth quartile	418	-5.04	(-15.98, 5.91)	0.367	-3.77	(-14.97, 7.44)	0.510
Conflict network ANT								
	First quartile	356	ref			ref		
	Second quartile	392	-0.51	(-11.93, 10.92)	0.930	2.37	(-9.42, 14.16)	0.693
	Third quartile	408	0.83	(-10.46, 12.12)	0.886	1.36	(-10.29, 13.01)	0.819
	Fourth quartile	418	5.94	(-5.36, 17.24)	0.303	7.41	(-4.27, 19.08)	0.214

[a]Multivariate linear regression models adjusted for sex of child, child's age at testing, cohort, quality of the test (none for ANT), and maternal energy intake.

[b] Multivariate linear regression models adjusted additionally for birthweight of the child, gestational age, duration of breastfeeding, maternal alcohol consumption, maternal education, maternal smoking, maternal social class, pre-pregnancy BMI, number of pregnancies, number of miscarriages, maternal country of origin.