

Supplemental Information

SUPPLEMENTAL TABLE 5 Demographics for Total Sample and BMI Present Sample

	Total Sample ^a <i>n</i> = 13 467	With BMI Z Score at 42 mo <i>n</i> = 8410	Without BMI Z score at 42 mo <i>n</i> = 5057
Maternal			
Smoked during pregnancy, any	25.0%	23.0%	28.4% ^b
Alcohol during pregnancy, any	54.6%	54.7%	54.4%
Fish intake during pregnancy, mean (SD)	1.87 (1.75)	1.83 (1.74)	1.89 (1.75)
Age at delivery, mean y (SD)	27.96 (4.98)	28.17 (4.84)	27.59 (5.18) ^b
Breastfed this child, ever	75.5%	75.9%	74.8%
Child			
Gender, male	51.5%	51.8%	51.0%
Race, white	97.4%	97.9%	96.4% ^b
Premature, <37 wk	4.9%	4.5%	5.6% ^b
Low birth weight, <2500 g	4.3%	4.2%	4.4%
Adenoids removed, ever	7.4%	7.2%	8.0%
Tonsils removed, ever	4.5%	4.5%	4.6%
BMI z score at 42 mo	0.27 (1.06)	0.24 (1.06)	
Socioeconomic and family			
Maternal education, ^c Lower (%)	64.6%	65.6%	62.9% ^b
Paternal employment, manual (%)	44.0%	44.5%	43.1%
Housing, inadequate, (%)	12.3%	11.4%	14.0% ^b
Family Adversity Index, mean (range: 0–18)	1.77 (1.98)	1.70 (1.92)	1.88 (2.06) ^b
HOME score, mean (range: 0–8)	5.74 (1.66)	5.78 (1.62)	5.65 (1.73) ^b
Parity ≥1	55.1%	54.2%	56.7% ^b

P values are calculated from χ^2 test for categorical variables and analysis of variance for continuous variables. HOME, Home Observation for Measurement of the Environment.

^a These 13c467 constitute the base sample used to derive the clusters and SDQ outcomes.

^b *P* < .01 comparing the with BMI and without BMI groups.

^c Lower defined as “0” level education or less (equivalent to school-leaving certificate at 16 in the United Kingdom), from 5 original groupings.

SUPPLEMENTAL TABLE 6 Association Between Early Clusters (n = 11 049) and Potential Confounders

	Peak at 6 n = 2277 (20.6%) (1)	Peak at 18 n = 1881 (17.0%) (2)	Worst Case n = 878 (8.0%) (3)	Late Symptom n = 1023 (9.3%) (4)	Normals n = 4990 (45.2%) (5)
Maternal characteristics					
Smoked during pregnancy, any ^a	24.7%	25.0%	30.4%	28.6%	18.1%
Alcohol during pregnancy, any ^b	53.3%	53.8%	55.7%	54.1%	56.8%
Fish intake during pregnancy, mean	1.86 (1.70)	1.82 (1.69)	1.89 (1.74)	2.00 (1.88)	1.86 (1.75)
Age at delivery, mean y ^a	28.33 (4.78)	28.08 (4.85)	27.69 (4.95)	27.70 (4.89)	28.90 (4.66)
Breastfed this child, ever ^a	75.5%	76.0%	69.8%	73.2%	78.7%
Child characteristics					
Gender, male ^a	53.2%	52.5%	56.2%	52.9%	49.2%
Race, white ^a	98.3%	96.9%	97.6%	97.5%	98.2%
Premature, <37 wk ^a	4.7%	4.3%	6.5%	6.2%	4.2%
Low birth weight, <2500 g ^a	3.4%	4.7%	4.5%	5.2%	3.3%
BMI z score at 42 mo	0.27 (1.04)	0.33 (1.07)	0.25 (1.14)	0.25 (1.12)	0.25 (1.03)
Socioeconomic and family characteristics					
Maternal education, Lower (%) ^a	65.0%	66.2%	67.8%	68.4%	58.4%
Paternal employment, manual (%) ^a	42.9%	45.8%	47.0%	46.2%	39.1%
Housing, inadequate (%) ^a	14.7%	15.0%	17.3%	13.3%	9.8%
Family Adversity Index mean (range: 0–18) ^a	2.12 (2.09)	2.10 (2.04)	2.50 (2.32)	2.19 (2.14)	1.61 (1.81)
HOME score, mean (range: 0–8)	5.72 (1.66)	5.72 (1.66)	5.71 (1.68)	5.70 (1.66)	5.80 (1.64)
Parity, ≥1	55.0%	53.8%	54.6%	52.5%	55.4%

P values are calculated from χ^2 test for categorical variables and analysis of variance for continuous variables. HOME, Home Observation for Measurement of the Environment.

^a P < .01 for difference between top 10% versus lower 90%.

^b P < .05 for difference between top 10% versus lower 90%.

SUPPLEMENTAL TABLE 7 ORs and 95% CIs for Unadjusted Cluster Effects on SDQ Total and Subscales at 4 and 7 Years

	Early Cluster Models		Later Cluster Models
	4 y	7 y	7 y
Top 10% vs Lower 90% OR (95% CI)			
SDQ Total			
Peak @ 6 (1)	1.41 (1.20–1.67) ^a	1.50 (1.24–1.81) ^a	1.64 (1.32–2.02) ^a
Peak @ 18 mo (2)	1.58 (1.33–1.87) ^a	1.62 (1.32–1.97) ^a	1.67 (1.37–2.04) ^a
Worst Case (3)	2.06 (1.66–2.56) ^a	2.34 (1.83–2.99) ^a	2.45 (1.92–3.13) ^a
Late Symptom (4)	2.17 (1.77–2.66) ^a	1.81 (1.41–2.31) ^a	2.04 (1.67–2.50) ^a
Normal (5)	Reference	Reference	Reference
Symptomatic (1, 2, 3, 4) vs Normal (5)	1.67 (1.47–1.89) ^a	1.70 (1.46–1.96) ^a	1.86 (1.60–2.16) ^a
Pro-social			
Peak @ 6 (1)	1.36 (1.14–1.64) ^a	1.37 (1.13–1.66) ^a	1.38 (1.12–1.70) ^a
Peak @ 18 mo (2)	1.16 (0.95–1.42)	1.39 (1.14–1.71) ^a	1.24 (1.02–1.52) ^b
Worst Case (3)	1.26 (0.96–1.66)	1.40 (1.06–1.85) ^b	1.15 (0.86–1.53)
Late Symptom (4)	0.99 (0.75–1.31)	0.93 (0.69–1.27)	0.90 (0.71–1.15)
Hyperactivity			
Peak @ 6 (1)	1.42 (1.21–1.66) ^a	1.64 (1.36–1.97) ^a	1.70 (1.38–2.10) ^a
Peak @ 18 mo (2)	1.39 (1.17,1.65) ^a	1.57 (1.28–1.92) ^a	1.57 (1.28–1.92) ^a
Worst Case (3)	1.96 (1.59–2.42) ^a	2.54 (1.99–3.23) ^a	2.28 (1.78–2.93) ^a
Late Symptom (4)	1.75 (1.42–2.14) ^a	1.85 (1.44–2.37) ^a	2.00 (1.63–2.45) ^a
Emotional			
Peak @ 6 (1)	1.31 (1.10–1.57) ^a	1.43 (1.20–1.70) ^a	1.61 (1.33–1.96) ^a
Peak @ 18 mo (2)	1.34 (1.10–1.62) ^a	1.43 (1.19–1.72) ^a	1.53 (1.28–1.84) ^a
Worst Case (3)	1.57 (1.22–2.01) ^a	1.67 (1.31–2.13) ^a	1.82 (1.42–2.32) ^a
Late Symptom (4)	1.65 (1.31–2.08) ^a	1.54 (1.22–1.96) ^a	1.85 (1.53–2.24) ^a
Conduct			
Peak @ 6 (1)	1.66 (1.41–1.95) ^a	1.53 (1.27–1.85) ^a	1.48 (1.19–1.83) ^a
Peak @ 18 mo (2)	1.47 (1.23–1.75) ^a	1.51 (1.24–1.85) ^a	1.62 (1.33–1.97) ^a
Worst Case (3)	1.86 (1.49–2.33) ^a	1.94 (1.50–2.51) ^a	1.95 (1.51–2.52) ^a
Late Symptom (4)	2.02 (1.64–2.48) ^a	1.45 (1.12–1.90) ^a	1.60 (1.30–1.98) ^a
Peer			
Peak @ 6 (1)	1.35 (1.13–1.62) ^a	1.33 (1.12–1.57) ^a	1.34 (1.10–1.62) ^a
Peak @ 18 mo (2)	1.29 (1.06–1.57) ^b	1.38 (1.15–1.65) ^a	1.43 (1.20–1.70) ^a
Worst Case (3)	1.60 (1.25–2.04) ^a	1.76 (1.39–2.22) ^a	1.72 (1.36–2.18) ^a
Late Symptom (4)	1.35 (1.06–1.72) ^b	1.39 (1.10–1.76) ^a	1.39 (1.15–1.69) ^a

^a $P < .01$ for difference between top 10% versus lower 90%.^b $P < .05$ for difference between top 10% versus lower 90%.

SUPPLEMENTAL TABLE 8 Cluster Effects on SDQ Total Scores at 4 and 7 Years

Top 10% vs Lower 90% OR (95% CI)	Early Cluster Models		Later Cluster Models
	4 y ^a n = 6111	7 y ^{a,b} n = 5473	7 y ^{a,b} n = 5517
Adjusted with BMI ^c			
Peak @ 6 (1)	1.09 (0.87–1.36)	1.21 (0.95–1.54)	1.37 (1.04–1.79) ^e
Peak @ 18 mo (2)	1.24 (0.98–1.57)	1.21 (0.93–1.58)	1.35 (1.04–1.76) ^e
Worst Case (3)	1.59 (1.18–2.13) ^d	1.70 (1.23–2.36) ^d	1.86 (1.35–2.57) ^d
Late Symptom (4)	1.73 (1.32–2.27) ^d	1.15 (0.82–1.62)	1.56 (1.18–2.05) ^d
BMI z score @ 42 mo	0.94 (0.87–1.02)	1.03 (0.94–1.12)	1.03 (0.94–1.12)
Smoking during pregnancy	NS	NS	NS
Gender, male	NS	1.34 (1.11–1.62) ^d	1.35 (1.12–1.63) ^d
Maternal education, lower	1.50 (1.24–1.81) ^d	1.31 (1.07–1.59) ^d	1.28 (1.05–1.56) ^e
Paternal employment, manual	1.42 (1.20–1.89) ^d	NS	NS
Family Adversity Index	1.19 (1.14–1.23) ^d	1.26 (1.20–1.31) ^d	1.25 (1.20–1.31) ^d
Home score	NS	0.90 (0.85–0.95) ^d	0.90 (0.85–0.96) ^d
Parity 1 vs 0 ≥2 vs 0	NS	0.70 (0.56–0.86) ^d	0.70 (0.58–0.87) ^d
	NS	0.60 (0.43–0.75) ^d	0.57 (0.44–0.75) ^d
Clusters 1, 2, 3, & 4 vs Normals (5)	1.27 (1.07–1.51) ^d	1.27 (1.05–1.53) ^e	1.44 (1.13–1.83) ^d

HOME, Home Observation for Measurement of the Environment; NS, not significant.

^a Adjusted for fish intake, Family Adversity Index, mother and home score, smoke during pregnancy, alcohol during pregnancy, race, breastfeeding ever, housing inadequacy, parity, gestation age, paternal social, maternal education, birth weight, maternal age, gender.

^b Additional adjusted for tonsils or adenoids removed.

^c Covariates shown are only those that were significant ($P < .05$) in reduced models with each of the 4 symptomatic models incorporated as a separate variable (versus combined clusters 1, 2, 3, and 4).

^d $P < .01$.

^e $P < .05$.