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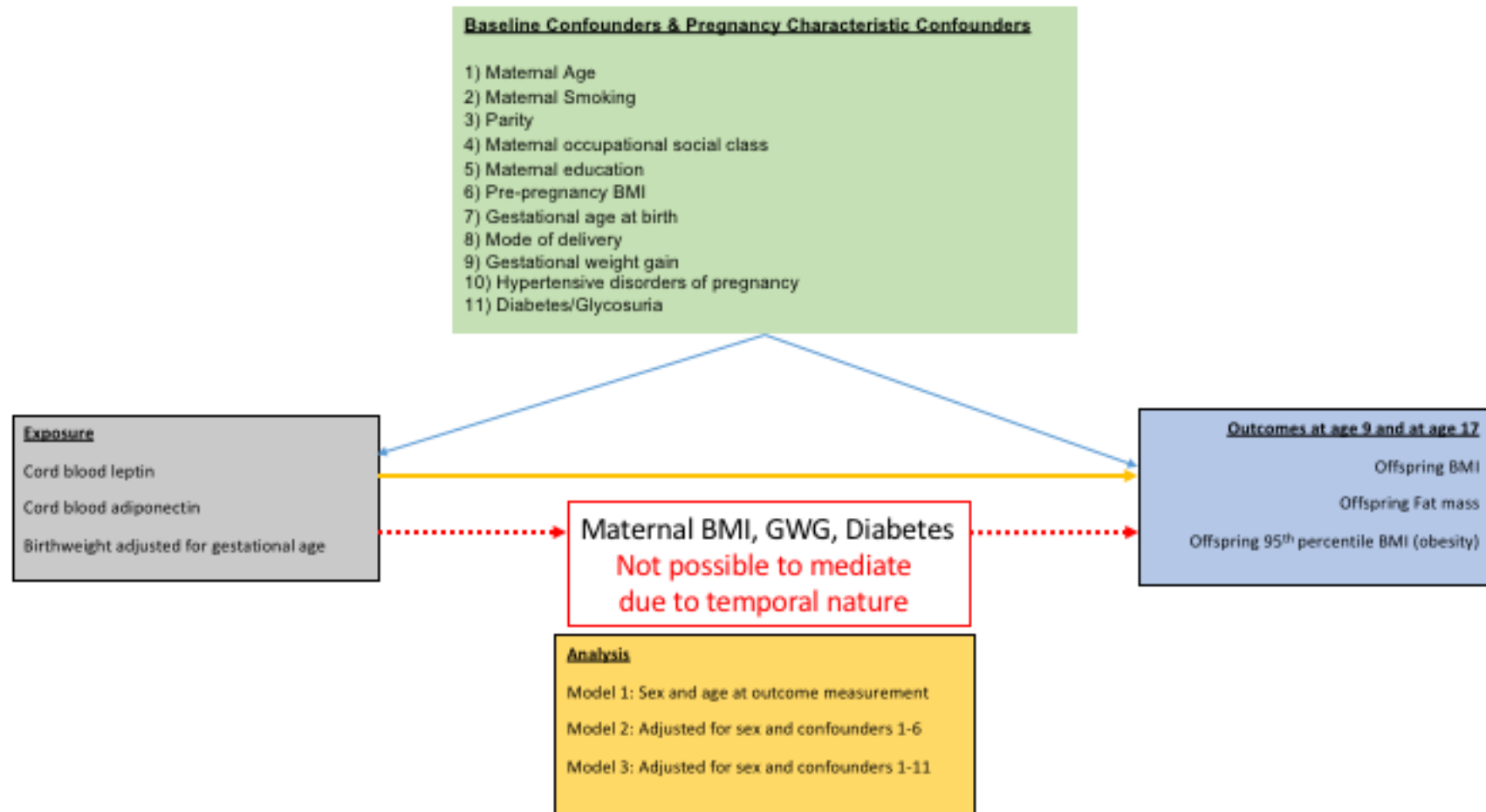
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## **Supplemental Figures and Tables**

## Supplemental Figure 1

Directed acyclic graph for cord leptin and adiponectin and long-term adiposity



### **Supplemental Figure 1: Explanation of directed acyclic graph**

BMI, GWG and diabetic disorders are all associated with neonatal adiposity (or main exposure in this study) and also offspring adiposity (outcome) in later life. These relationships (which have a biological basis) implicate them as confounders i.e. it is plausible that these characteristics influence neonatal adiposity (including that measured by cord-blood leptin) and later offspring adiposity and hence are, by definition, potential confounders. By contrast they could not be considered mediators as this would only be plausible if we assumed that neonatal adiposity causes maternal pre-pregnancy BMI, GWG and gestational diabetes which in turn go on to cause later offspring adiposity; not only is this not biologically plausible, it is not temporally possible (see Supplemental Figure 1). It is possible that cord leptin (infant adiposity) mediates the effect of these more distal maternal risk factors on later offspring adiposity, however, that is a different research question than the hypothesis currently being examined.

**Supplemental Table 1:** Characteristics of observed and imputed data at age 9 and 17 years.

	Observed at age 9			Multiply Imputed at Age 9		Observed at Age 17			Multiply Imputed at Age 17	
	N missing (%)	N obs (%)	Median IQR	N obs (%)	Median IQR	N missing (%)	N obs (%)	Median IQR	N obs (%)	Median IQR
<b>Maternal Characteristics</b>										
Age	221 (8.0)	2554	29 26, 32	2775	29 26, 32	465 (21.7)	1673	29 26, 32	2138	29 26, 32
Smoking	274 (9.9)					497 (23.2)				
Never		1894 (75.7)		2077 (74.9)			1273 (77.6)		1633 (76.4)	
Before, not during pregnancy		178 (7.1)		198 (7.1)			118 (7.2)		155 (7.3)	
During pregnancy		429 (17.2)		500 (18.0)			250 (15.2)		350 (16.4)	
BMI	483 (17.4)	2292	22.2 20.5, 24.4	2775	22.4 20.5, 24.7	630 (29.5)	1508	22.0 20.5, 24.2	2138	22.2 20.5, 24.4
Parity	317 (11.4)					522 (24.4)				
0		1124 (45.7)		1294 (46.6)			772 (47.8)		1036(48.5)	
1		906 (36.9)		999 (36.0)			580 (35.9)		749 (35.0)	

2		322 (13.1)	364 (13.1)	196 (12.1)	265 (12.4)
3		84 (3.4)	96 (3.5)	50 (3.1)	64 (3.0)
4+		22 (0.9)	22 (0.8)	18 (1.1)	24 (1.1)
Education	309 (11.1)			519 (24.3)	
Left school at 16		1479 (60.0)	1,685 (60.7)	896 (55.3)	1236 (57.8)
A level		628 (25.5)	696 (25.08)	437 (30.0)	565 (26.4)
Degree		359 (14.6)	394 (14.2)	286 (17.7)	337 (15.8)
Social Class	646 (23.3)			696 (32.6)	
I (least disadvantaged)		129 (6.1)	148 (5.3)	107 (7.4)	128 (6.0)
II		730 (34.3)	916 (33.01)	520 (36.1)	737 (34.5)
IIIa		925 (43.5)	1,209 (43.6)	603 (41.8)	914 (42.8)
IIIb		141 (6.6)	200 (7.21)	90 (6.2)	154 (7.2)
IV		172 (8.1)	249 (8.97)	104 (7.2)	173 (8.1)
V (most disadvantaged)		32 (1.5)	53 (1.91)	18 (1.3)	32 (1.5)

**Offspring Characteristics**

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Sex	192 (6.9)			443 (20.7)	
Male		1243 (48.1)	1,343 (48.4)	722 (42.6)	969 (45.3)
Female		1340 (51.9)	1,432 (51.6)	973 (57.4)	1169 (54.7)

**Pregnancy  
Characteristics**

Gestational age at birth (weeks)	221 (8.0)	2554	40	2775	40	465 (21.7)	1673	40	2138	40
			39, 41		39, 41			39, 41		39, 41
Model of delivery	106 (3.8)					478 (22.4)				
Spontaneous		1960 (77.4)		2148 (77.4)			1303 (78.5)		1657 (77.5)	
Breech		32 (1.3)		36 (1.3)			20 (1.2)		28 (1.3)	
Caesarean		223 (8.8)		247 (8.9)			129 (7.8)		175 (8.2)	
Forceps		153 (6.0)		164 (5.9)			90 (5.4)		120 (5.6)	
Vacuum		135 (5.3)		148 (5.3)			96 (5.8)		129 (6.0)	
Other		31 (1.2)		32 (1.2)			22 (1.3)		29 (1.4)	
Gestational weight gain (kg)	427 (15.4)	2348	12.5	2775	12.5	612 (28.6)	1526	12.5	2138	12.4
			9.6, 15.2		9.5, 15.2			9.6, 15.3		9.5, 15.3
Hypertension and pre-eclampsia	233 (8.0)					473 (22.1)				
No hypertensive disorders		2159 (84.9)		2351 (84.7)			1407 (84.5)		1798 (84.1)	
Hypertension, no pre-eclampsia		342 (13.5)		378 (13.6)			228 (13.7)		300 (14.0)	
Hypertension and pre-eclampsia		41 (1.6)		46 (1.7)			30 (1.8)		40 (1.9)	
Diabetes	433 (15.6)					531 (24.8)				

No glycosuria or diabetes	2342 (95.6)	2652 (95.6)	1536 (95.6)	2038 (95.3)
Existing diabetes	10 (0.4)	11 (0.4)	8 (0.5)	12 (0.6)
Gestational diabetes	16 (0.7)	20 (0.7)	6 (0.4)	18 (0.8)
Glycosuria	82 (3.4)	92 (3.3)	57 (3.6)	70 (3.3)

Median, Interquartile range

Figures are numbers (%) unless stated otherwise



	Cord blood		Age 9			Age 17		
	Leptin	Adiponectin	FM	WC	BMI	FM	WC (age 15)	BMI
Birthweight	1451	4707	2417	2527	2513	1564	1448	1614
	0.33	0.14	0.09	0.16	0.15	0.05	0.13	0.10
Cord blood								
Leptin		4962	2458	2572	2558	1592	1472	1645
		0.11	0.12	0.05	0.09	0.16	0.05	0.08
Adiponectin			2433	2547	2533	1580	1456	1633
			0.004	-0.04	-0.01	0.07	0.02	0.03
Age 9								
FM				2452	2439	1352	1271	1382
				0.82	0.90	0.74	0.60	0.64
WC					2554	1420	1326	1452
					0.88	0.52	0.66	0.63
BMI						1407	1313	1440
						0.62	0.63	0.74
Age 17								
FM							1070	1589

WC (age 15)	0.59	0.78
		1093
		0.69

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**Supplemental Table 2:** Spearman correlations between birthweight, adipokines and markers of anthropometry at age 9 and 17

**Supplemental Table 3: Cord blood analyte relative to maternal and pregnancy characteristics**

Maternal Characteristics	Attended at least one clinic assessment		
	Cord leptin	Cord Adiponectin	Birthweight
	(pg/ml)	(µg/ml)	(g)
	Median (IQR) or coefficient (95% CI)	Median (IQR) or coefficient (95% CI)	Median (IQR) or coefficient (95% CI)
	(N=2,845)	(N=2,820)	
Age (per 1 year increase)	0.05 (-0.01, 0.11), p=0.10	-0.26 (-0.46, -0.06), p=0.01	5.37 (1.87, 8.86), p=0.003
BMI (per 1kg/m <sup>2</sup> increase)	0.43 (0.35, 0.52), p<0.001	-0.04 (-0.32,0.23), p=0.74	19.20 (14.68, 23.72),p<0.001
Smoking			
Never	6.33 (3.55, 12.08)	75.70 (53.5, 98.15)	3418 (3144, 3714)
Before, not during pregnancy	7.36 (3.42, 13.45)	76.98 (54.75, 98.11)	3546 (3257, 3621)
During pregnancy	6.19 (3.58, 11.23)	74.62 (53.53, 98.28)	3354 (3062, 3621)
	P=0.33	P=0.22	P<0.001
Parity			
0	6.11 (3.23, 11.37)	74.36, 52.91, 98.77)	3329 (3066, 3585)
1	6.63 (3.74, 12.42)	77.66 (56.16, 99.41)	3487 (3227, 3760)
2	6.78 (3.75, 11.91)	74.40 (51.93, 95.28)	3507 (3210, 3811)
3	7.90 (4.14, 15.76)	76.24 (57.00, 98.07)	3501 (3128, 3869)
4+	7.01 (4.05, 12.25)	75.74 (53.29, 102.48)	3409 (3142, 3712)
	P=0.03	P=0.45	P<0.001
Education			
Left school at 16	6.44 (3.59, 12.38)	76.03 (54.43, 100.45)	3403 (3136, 3705)
A level	6.31 (3.22, 11.91)	75.8 (52.33, 97.14)	3426 (3141, 3723)
Degree	6.26 (4.00, 11.24)	74.18 (63.13, 95.02)	3421 (3154, 3726)
	P=0.67	P=0.36	P=0.65
Social Class			
I (least disadvantaged)	5.76 (3.92, 11.32)	65.46 (49.79, 91.86)	3448 (3144, 3786)
II	6.06 (3.38, 11.79)	77.56 (54.47, 98.44)	3401 (3142, 3686)

IIIa	6.38 (3.36, 11.84)	75.09 (52.91, 97.42)	3405 (3152, 3713)
IIIb	7.58 (3.80, 13.74)	76.49 (54.68, 99.55)	3397 (3128, 3692)
IV	6.88 (4.12, 12.81)	79.36 (55.34, 105.26)	3491 (3126, 3769)
V (most disadvantaged)	7.26 (3.86, 11.34)	76.65 (63.65, 100.20)	3422 (3141, 3766)
	P=0.23	P=0.23	P=0.65

### Pregnancy Characteristics

#### Model of delivery

Spontaneous	6.41 (3.58, 12.02)	76.95 (54.64, 99.51)	3415 (3144, 3714)
Breech	6.72 (3.42, 11.56)	66.24 (41.42, 94.81)	3230 (3042, 3437)
Caesarean	5.84 (3.36, 11.21)	67.21 (47.38, 89.83)	3425 (3088, 3741)
Forceps	5.85 (3.18, 12.37)	78.83 (58.27, 102.56)	3409 (3153, 3705)
Vacuum	7.72 (4.14, 15.31)	72.91 (46.71, 94.78)	3335 (3076, 3598)
Other	5.70 (2.98, 11.89)	74.94 (51.66, 101.88)	3271 (3191, 3634)
	P=0.09	P<0.001	P=0.006

Gestational weight gain (per 1kg increase)	0.22 (0.16, 0.29), p<0.001	0.33 (0.11, 0.54), p=0.003	21.19 (18.40, 23.98), p<0.001
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#### Hypertension and pre-eclampsia

No hypertensive disorders	6.32 (3.58, 12.03)	76.43 (54.19, 98.38)	3408 (3142, 3708)
Hypertension, no pre-eclampsia	6.84 (3.49, 12.82)	73.26 (52.75, 97.22)	3425 (3134, 3716)
Hypertension and pre-eclampsia	6.87 (3.15, 14.22)	65.58 (50.68, 95.24)	3288 (2952, 3775)
	P=0.61	P=0.17	P=0.61

#### Diabetes

No glycosuria or diabetes	6.26 (3.56, 11.98)	75.99 (53.82, 98.88)	3405 (3138, 3705)
Existing diabetes	8.90 (7.2, 20.22)	51.15 (36.07, 94.52)	3541 (3094, 4122)
Gestational diabetes	8.62 (3.15, 21.94)	71.86 (48.86, 86.34)	3746 (3541, 4347)
Glycosuria	7.88 (3.90, 13.35)	71.42 (52.24, 93.34)	3464 (3181, 3733)
	P=0.08	P=0.33	P<0.001

#### Median (Interquartile range)

P values for differences between categories

Birthweight adjusted for sex, gestational age and number of offspring

**Supplemental Table 4:** Associations of birthweight and cord blood analyte with fat mass, waist circumference and BMI at age 9 years. N= 2775

Exposure	Outcome	Fat mass*			Waist circumference			BMI		
	%									
	Change	95% CI	P	Change	95% CI	P	Change	95% CI	P	
Leptin (10pg/ml)										
Model 1	3.9	2.2, 5.7	<0.001	1.0	0.6, 1.4	<0.001	1.5	0.9, 2.0	<0.001	
Model 2	2.0	0.3, 3.7	0.022	0.5	0.1, 0.9	0.016	0.8	0.3, 1.3	0.003	
Model 3	1.5	-0.2, 3.3	0.077	0.4	0.0, 0.8	0.069	0.6	0.1, 1.1	0.023	
Adiponectin (10µg/ml)										
Model 1	0.0	-0.5, 0.5	0.999	-0.1	-0.2, 0.0	0.152	0.0	-0.2, 0.1	0.830	
Model 2	0.1	-0.4, 0.6	0.738	-0.1	-0.2, 0.0	0.236	0.0	-0.1, 0.2	0.860	
Model 3	0.1	-0.4, 0.6	0.758	-0.1	-0.2, 0.0	0.186	0.0	-0.2, 0.2	0.975	
Birthweight‡ (100g)										
Model 1	0.5	0.0, 0.9	0.032	0.4	0.3, 0.5	<0.001	0.5	0.4, 0.7	<0.001	
Model 2	0.1	-0.3, 0.5	0.609	0.3	0.2, 0.4	<0.001	0.4	0.3, 0.5	<0.001	
Model 3	-0.1	-0.5, 0.4	0.710	0.3	0.2, 0.4	<0.001	0.4	0.2, 0.5	<0.001	

Model 1: Adjusted for offspring sex and age at measurement.

Model 2: Adjusted for offspring sex, age at measurement and maternal confounders (age, smoking, parity, occupational social class, education and pre-pregnancy BMI).

Model 3: Adjusted for offspring sex, age at measurement and maternal confounders plus pregnancy confounders (gestational age at birth, mode of delivery, gestational weight gain, hypertensive disorders and diabetic disorders of pregnancy).

\* Fat mass adjusted for height

‡ Birthweight adjusted for sex, gestational age and singleton/twin pregnancy

% refers to percentage change of outcome per unit increase in exposure

**Supplemental Table 5:** Associations of birthweight and cord blood analyte with fat mass, waist circumference (at age 15 years) and BMI at age 17 years. N= 2138

Outcome	Fat mass*			Waist Circumference			BMI		
	%			%			%		
Exposure	Change	95% CI	P	Change	95% CI	P	Change	95% CI	P
<b>Leptin (10pg/ml)</b>									
Model 1	3.6	1.5, 5.8	0.001	0.9	0.5, 1.4	<0.001	1.4	0.8, 2.1	<0.001
Model 2	1.0	-1.0, 3.1	0.335	0.4	0.0, 0.9	0.074	0.5	-0.2, 1.1	0.151
Model 3	0.6	-1.5, 2.7	0.568	0.4	-0.1, 0.9	0.100	0.3	-0.3, 1.0	0.317
<b>Adiponectin (10µg/ml)</b>									
Model 1	0.6	-0.1, 1.2	0.092	0.1	0.0, 0.3	0.061	0.2	0.0, 0.4	0.083
Model 2	0.7	0.0, 1.3	0.039	0.2	0.0, 0.3	0.024	0.2	0.0, 0.4	0.029
Model 3	0.6	0.0, 1.3	0.048	0.2	0.0, 0.3	0.032	0.2	0.0, 0.4	0.033
<b>Birthweight‡ (100g)</b>									
Model 1	1.2	0.7, 1.7	<0.001	0.5	0.4, 0.6	<0.001	0.5	0.3, 0.7	<0.001
Model 2	0.6	0.1, 1.2	0.016	0.4	0.3, 0.5	<0.001	0.3	0.1, 0.4	<0.001
Model 3	0.5	-0.1, 1.0	0.091	0.4	0.3, 0.5	<0.001	0.3	0.1, 0.4	0.002

Model 1: Adjusted for offspring sex and age at measurement.

Model 2: Adjusted for offspring sex, age at measurement and maternal confounders (age, smoking, parity, occupational social class, education and pre-pregnancy BMI).

Model 3: Adjusted for offspring sex, age at measurement and maternal confounders plus pregnancy confounders (gestational age at birth, mode of delivery, gestational weight gain, hypertensive disorders and diabetic disorders of pregnancy).

\* Fat mass adjusted for height

‡ Birthweight adjusted for sex, gestational age and singleton/twin pregnancy

% refers to percentage change of outcome per unit increase in exposure



**Supplemental Table 6:** Associations of birthweight and cord blood analyte with fat mass, waist circumference and BMI z-scores and obesity at age 9 years using complete case analysis.

Exposure	Outcome	Fat mass z-score *			Waist circumference z-score			BMI z-score			Obesity		
		Coefficient	95% CI	P	Coefficient	95% CI	P	Coefficient	95% CI	P	OR	95% CI	P
<b>Leptin (10pg/ml)</b>													
	Model 1	0.06	0.03, 0.10	<0.001	0.09	0.05, 0.13	<0.001	0.09	0.05, 0.14	<0.001	1.09	0.91, 1.32	0.343
	Model 2	0.03	-0.01, 0.07	0.096	0.05	0.01, 0.09	0.014	0.05	0.01, 0.09	0.029	0.93	0.75, 1.14	0.463
	Model 3	0.02	-0.01, 0.06	0.239	0.04	0.00, 0.08	0.051	0.03	-0.01, 0.08	0.141	0.89	0.72, 1.10	0.289
			N=1,684			N=1,776			N=1,764			N=1,764	
<b>Adiponectin (10µg/ml)</b>													
	Model 1	0.00	-0.01, 0.01	0.910	-0.01	-0.02, 0.01	0.393	0.00	-0.01, 0.02	0.786	1.04	0.97, 1.12	0.267
	Model 2	0.00	-0.01, 0.02	0.573	0.00	-0.01, 0.01	0.761	0.01	-0.01, 0.02	0.346	1.06	0.99, 1.14	0.116
	Model 3	0.00	-0.01, 0.02	0.498	0.00	-0.02, 0.01	0.728	0.01	-0.01, 0.02	0.356	1.06	0.98, 1.14	0.134
			N=1,666			N=1,758			N=1,746			N=1,746	
<b>Birthweight‡ (100g)</b>													
	Model 1	0.01	0.00, 0.02	0.100	0.04	0.02, 0.05	<0.001	0.04	0.03, 0.05	<0.001	1.05	0.99, 1.11	0.128
	Model 2	0.00	-0.01, 0.01	0.707	0.03	0.02, 0.04	<0.001	0.03	0.02, 0.05	<0.001	1.02	0.96, 1.08	0.553
	Model 3	0.00	-0.01, 0.01	0.679	0.03	0.01, 0.04	<0.001	0.03	0.02, 0.04	<0.001	1.00	0.94, 1.06	0.952
			N=1,673			N=1,765			N=1,753			N=1,753	

Model 1: Adjusted for offspring sex and age at measurement.

Model 2: Adjusted for offspring sex, age at measurement and maternal confounders (age, smoking, parity, occupational social class, education and pre-pregnancy BMI).

Model 3: Adjusted for offspring sex, age at measurement and maternal confounders plus pregnancy confounders (gestational age at birth, mode of delivery, gestational weight gain, hypertensive disorders and diabetic disorders of pregnancy).

\* Fat mass adjusted for height

‡ Birthweight adjusted for sex, gestational age and singleton/twin pregnancy

**Supplemental Table 7:** Associations of birthweight and cord blood analyte with fat mass, waist circumference (at age 15 years) and BMI z-scores and obesity at age 17 years using complete case analysis.

Exposure	Outcome	Fat mass z-score *			Waist circumference z-score			BMI z-score			Obesity		
		Coefficient	95% CI	P	Coefficient	95% CI	P	Coefficient	95% CI	P	OR	95% CI	P
Leptin (10pg/ml)													
	Model 1	0.08	0.03, 0.13	0.001	0.06	0.01, 0.11	0.023	0.09	0.03, 0.14	0.003	1.17	1.00, 1.38	0.049
	Model 2	0.03	-0.02, 0.08	0.224	0.03	-0.02, 0.08	0.271	0.02	-0.04, 0.07	0.485	0.96	0.78, 1.18	0.679
	Model 3	0.02	-0.03, 0.07	0.393	0.04	-0.02, 0.09	0.171	0.01	-0.05, 0.06	0.765	0.93	0.75, 1.16	0.543
			N=1,143			N=1,055			N=1,177			N=1,177	
Adiponectin (10µg/ml)													
	Model 1	0.01	-0.01, 0.03	0.257	0.01	-0.01, 0.03	0.266	0.01	-0.01, 0.03	0.497	1.02	0.95, 1.10	0.554
	Model 2	0.01	-0.01, 0.03	0.244	0.01	0.00, 0.03	0.164	0.01	-0.01, 0.03	0.439	1.03	0.95, 1.11	0.482
	Model 3	0.01	-0.01, 0.03	0.208	0.01	0.00, 0.03	0.135	0.01	-0.01, 0.03	0.383	1.04	0.96, 1.12	0.386
			N=1,132			N=1,041			N=1,166			N=1,166	
Birthweight‡ (100g)													
	Model 1	0.03	0.01, 0.04	<0.001	0.03	0.01, 0.04	<0.001	0.03	0.02, 0.05	<0.001	1.09	1.04, 1.15	0.001
	Model 2	0.01	0.00, 0.03	0.040	0.02	0.01, 0.04	0.001	0.02	0.01, 0.04	0.004	1.05	0.99, 1.12	0.093
	Model 3	0.01	0.00, 0.02	0.149	0.02	0.01, 0.04	<0.001	0.02	0.00, 0.03	0.022	1.05	0.98, 1.11	0.159
			N=1,136			N=1,048			N=1,170			N=1,170	

Model 1: Adjusted for offspring sex and age at measurement.

Model 2: Adjusted for offspring sex, age at measurement and maternal confounders (age, smoking, parity, occupational social class, education and pre-pregnancy BMI).

Model 3: Adjusted for offspring sex, age at measurement and maternal confounders plus pregnancy confounders (gestational age at birth, mode of delivery, gestational weight gain, hypertensive disorders and diabetic disorders of pregnancy).

\* Fat mass adjusted for height

‡ Birthweight adjusted for sex, gestational age and singleton/twin pregnancy

**Supplemental Table 8:** Associations of birthweight and cord blood analyte with fat mass, waist circumference and BMI at age 9 years using complete case analysis.

Exposure	Outcome	Fat mass*			Waist circumference			BMI		
		% Change	95% CI	P	% Change	95% CI	P	% Change	95% CI	P
Leptin (10pg/ml)										
	Model 1	3.3	1.2, 5.4	0.002	1.0	0.5, 1.5	<0.001	1.0	0.7, 1.9	<0.001
	Model 2	1.4	-0.6, 3.4	0.160	0.6	0.1, 1.0	0.019	0.5	0.1, 1.3	0.024
	Model 3	0.9	-1.1, 2.9	0.373	0.4	0.0, 0.9	0.068	0.3	-0.1, 1.1	0.121
			N=1,684			N=1,776			N=1,764	
Adiponectin (10µg/ml)										
	Model 1	0.1	-0.6, 0.8	0.752	0.0	-0.2, 0.1	0.559	0.0	-0.2, 0.3	0.651
	Model 2	0.3	-0.3, 1.0	0.336	0.0	-0.2, 0.1	0.937	0.1	-0.1, 0.3	0.270
	Model 3	0.4	-0.3, 1.0	0.280	0.0	-0.2, 0.1	0.922	0.1	-0.1, 0.3	0.272
			N=1,666			N=1,758			N=1,746	
Birthweight‡ (100g)										
	Model 1	0.4	-0.1, 0.9	0.153	0.4	0.3, 0.6	<0.001	0.5	0.4, 0.7	<0.001
	Model 2	0.0	-0.5, 0.6	0.965	0.4	0.2, 0.5	<0.001	0.4	0.3, 0.6	<0.001
	Model 3	-0.2	-0.8, 0.3	0.433	0.3	0.2, 0.4	<0.001	0.4	0.2, 0.5	<0.001
			N=1,673			N=1,765			N=1,753	

Model 1: Adjusted for offspring sex and age at measurement.

Model 2: Adjusted for offspring sex, age at measurement and maternal confounders (age, smoking, parity, occupational social class, education and pre-pregnancy BMI).

Model 3: Adjusted for offspring sex, age at measurement and maternal confounders plus pregnancy confounders (gestational age at birth, mode of delivery, gestational weight gain, hypertensive disorders and diabetic disorders of pregnancy).

\* Fat mass adjusted for height

‡ Birthweight adjusted for sex, gestational age and singleton/twin pregnancy

% refers to percentage change of outcome per unit increase in exposure

**Supplemental Table 9:** Associations of birthweight and cord blood analyte with fat mass, waist circumference (at age 15 years) and BMI at age 17 years using complete case analysis.

Exposure	Outcome	Fat mass*			Waist circumference			BMI		
	% Change	95% CI	P	% Change	95% CI	P	% Change	95% CI	P	
Leptin (10pg/ml)										
Model 1	3.9	1.4, 6.6	0.002	0.7	0.1, 1.3	0.022	1.4	0.7, 2.1	<0.001	
Model 2	1.3	-1.2, 3.8	0.317	0.3	-0.3, 0.9	0.309	0.5	-0.2, 1.1	0.173	
Model 3	0.8	-1.7, 3.4	0.536	0.4	-0.3, 1.0	0.194	0.4	-0.3, 1.1	0.244	
		N=1,143			N=1,055			N=1,297		
Adiponectin (10µg/ml)										
Model 1	0.4	-0.5, 1.3	0.397	0.1	-0.1, 0.3	0.357	0.0	-0.2, 0.3	0.750	
Model 2	0.4	-0.5, 1.2	0.376	0.1	-0.1, 0.3	0.231	0.1	-0.1, 0.3	0.410	
Model 3	0.4	-0.4, 1.3	0.343	0.1	-0.1, 0.3	0.192	0.1	-0.1, 0.3	0.410	
		N=1,132			N=1,041			N=1,281		
Birthweight‡ (100g)										
Model 1	1.3	0.6, 2.0	<0.001	0.3	0.2, 0.5	<0.001	0.5	0.3, 0.7	<0.001	
Model 2	0.7	0.0, 1.4	0.049	0.2	0.1, 0.4	0.003	0.3	0.1, 0.5	0.001	
Model 3	0.5	-0.2, 1.3	0.137	0.3	0.1, 0.4	0.001	0.3	0.1, 0.5	0.003	
		N=1,136			N=1,048			1,289		

Model 1: Adjusted for offspring sex and age at measurement.

Model 2: Adjusted for offspring sex, age at measurement and maternal confounders (age, smoking, parity, occupational social class, education and pre-pregnancy BMI).

Model 3: Adjusted for offspring sex, age at measurement and maternal confounders plus pregnancy confounders (gestational age at birth, mode of delivery, gestational weight gain, hypertensive disorders and diabetic disorders of pregnancy).

\* Fat mass adjusted for height

‡ Birthweight adjusted for sex, gestational age and singleton/twin pregnancy

% refers to percentage change of outcome per unit increase in exposure