Supplementary Online Content

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eTable 1. Nonresponse Analysis in Singleton Live Births With and Without Measures of Adiposity Available

Characteristics	Participants, No (%)[a]		
	Children included in the analysis (n= 3205)	Children not included in the analysis (n= 6696)	*P* Value
Maternal pregnancy characteristics			
Age (years), mean (SD)[b]	31.1 (4.9)	29.4 (5.5)	**<.001**
Height (cm), mean (SD)[b]	168.0 (7.3)	166.8 (7.4)	**<.001**
Weight (kg), median (90% range)[b]	64.0 (50.0; 90.0)	64.0 (50.0; 91.0)	.28
Pre-pregnancy body mass index, median (90% range)[b,c]	22.5 (18.7; 32.0)	22.7 (18.6; 33.8)	.06
Parity[d]			**<.001**
0	1787/3091 (57.8)	3449/6426 (53.7)	
≥ 1	1304/3091 (42.4)	2977/6426 (46.3)	
Educational level[d]			**<.001**
Lower	1400/2954 (47.4)	3546/5704 (62.2)	
Higher	1554/2954 (52.6)	2158/5704 (37.8)	
Folic acid use[d]			**<.001**
No	445/2204 (20.2)	1498/4427 (33.8)	
Yes	1759/2204 (79.8)	2929/4427 (66.2)	
Smoking during pregnancy[d]			**<.001**
No	1968/2550 (77.2)	3717/5272 (70.5)	
Yes	582/2550 (22.8)	1555/5272 (29.5)	
Childhood characteristics			
Boys[d]	1573/3205 (49.1)	3359/6536 (51.4)	**.03**
Birth weight (g), mean (SD)[b]	3444 (554)	3356 (600)	**<.001**
Age at visit (years), mean (SD)[b]	9.8 (0.3)	9.8 (0.4)	**<.001**
Race/ethnicity[d]			**<.001**
European	2134/3141 (67.0)	3550/6076 (58.4)	
Non-European	1007/3141 (32.1)	2526/6076 (41.6)	
Breastfeeding, ever[d]	2513 (92.8)	3708 (91.1)	**.01**

[a]Characteristics are based on observed, not imputed data.
[b]Differences in characteristics for children with and without fat measures available were evaluated using Independent-samples T test for continuous variables.
[c]Calculated as weight in kilograms divided by height in meters squared.
[d]Differences in characteristics for children with and without fat measures available were evaluated using χ^2 test for categorical variables.

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eTable 2. Associations of Fetal and Infant Growth With Childhood Body Composition From Conditional Analyses

Infant and Fetal Weight Standard Deviation Scores	Standard Deviation Scores, Regression Coefficients (95% CI)		
	Body mass index[a,b] (n= 3205)	Fat mass index[b,c] (n= 3185)	Fat free mass index[a,b] (n= 3185)
At 20 wk (n= 2729)	0.04 (0.001; 0.09)	-0.002 (-0.05; 0.04)	0.05 (0.003; 0.09)
At 30 wk (n= 2676)	0.05 (0.01; 0.09)	-0.002 (-0.05; 0.04)	0.05 (0.01; 0.09)
At birth (n= 2676)	0.08 (0.03; 0.12)	-0.01 (-0.05; 0.04)	0.15 (0.11; 0.10)
At 6 mo (n= 2212)	0.20 (0.16; 0.25)	0.11 (0.07; 0.16)	0.19 (0.15; 0.23)
At 12 mo (n= 1912)	0.19 (0.15; 0.23)	0.09 (0.05; 0.14)	0.17 (0.13; 0.21)
At 24 mo (n= 1539)	0.22 (0.18; 0.26)	0.10 (0.05; 0.14)	0.21 (0.17; 0.25)

[a]Coefficients are linear regression coefficients from conditional analyses based on SD scores of the outcome measures.
[b]Models are adjusted for family-based sociodemographic factors (maternal age and educational level), maternal lifestyle-related factors (pre-pregnancy body mass index, smoking during pregnancy, folic acid use during pregnancy, and parity), and childhood factors (age at visit, sex, race/ethnicity, and breastfeeding).
[c]Regression coefficients are linear regression coefficients from conditional analyses based on SD scores of natural log-transformed outcome measures.

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eTable 3. Associations of Fetal and Infant Growth With Childhood Body Composition and Adiposity From Conditional Analyses

Infant and Fetal Weight Standard Deviation Scores	Standard Deviation Scores, Regression Coefficients (95% CI)					
	Body mass index[a,b] (n= 3205)	Fat mass index[b,c] (n= 3185)	Fat free mass index[a,b] (n= 3185)	Visceral fat index[b,c] (n= 2731)	Liver fat fraction[b,b] (n= 3058)	Pericardial fat index[b,c] (n= 2839)
At 20 wk (n= 2729)	0.04 (-0.001; 0.09)	0.0004 (-0.05; 0.05)	0.05 (0.004; 0.09)	0.004 (-0.05; 0.06)	0.03 (-0.02; 0.09)	0.01 (-0.04; 0.07)
At 30 wk (n= 2676)	0.05 (0.003; 0.09)	-0.004 (-0.05; 0.04)	0.05 (0.01; 0.09)	-0.003 (-0.06; 0.05)	-0.05 (-0.10; -0.003)	0.07 (0.02; 0.13)
At birth (n= 2676)	0.04 (-0.001; 0.09)	-0.04 (-0.09; 0.004)	0.14 (0.09; 0.18)	-0.01 (-0.06; 0.05)	-0.03 (-0.08; 0.02)	0.06 (0.01; 0.12)
At 6 mo (n= 2212)	0.25 (0.20; 0.29)	0.16 (0.12; 0.21)	0.22 (0.17; 0.26)	0.09 (0.04; 0.14)	0.08 (0.03; 0.13)	0.04 (-0.01; 0.10)
At 12 mo (n= 1912)	0.18 (0.14; 0.23)	0.09 (0.05; 0.14)	0.17 (0.13; 0.21)	0.09 (0.03; 0.14)	0.07 (0.02; 0.12)	0.03 (-0.03; 0.08)
At 24 mo (n= 1539)	0.22 (0.18; 0.27)	0.10 (0.06; 0.15)	0.22 (0.18; 0.26)	0.06 (0.004; 0.11)	0.06 (0.01; 0.11)	0.004 (-0.05; 0.06)

[a]Regression coefficients are linear regression coefficients from conditional analyses based on SD scores of the outcome measures.
[b]Models are adjusted for childhood age at visit and sex.
[c]Regression coefficients are linear regression coefficients from conditional analyses based on SD scores of natural log-transformed outcome measures.

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eTable 4. Associations of Fetal and Infant Growth With Childhood Body Composition

Fetal Growth	Infant Growth	Standard Deviation Scores, Regression Coefficients (95% CI)		
		Body mass index[a,b] (n= 3205)	Fat mass index[b,c] (n= 3185)	Fat free mass index[a,b] (n= 3185)
Deceleration	Deceleration (n= 78)	-0.32 (-0.53; -0.12)	-0.17 (-0.37; 0.02)	-0.22 (-0.43; -0.02)
	Normal (n= 261)	-0.16 (-0.29; -0.03)	-0.10 (-0.23; 0.02)	-0.12 (-0.25; 0.01)
	Acceleration (n= 263)	0.27 (0.14; 0.40)	0.19 (0.07; 0.32)	0.20 (0.07; 0.33)
Normal	Deceleration (n= 213)	-0.24 (-0.38; -0.10)	-0.18 (-0.31; -0.04)	-0.17 (-0.30; -0.03)
	Normal (n= 533)	Reference	Reference	Reference
	Acceleration (n= 271)	0.40 (0.27; 0.53)	0.19 (0.07; 0.32)	0.39 (0.26; 0.52)
Acceleration	Deceleration (n= 319)	-0.07 (-0.20; 0.05)	-0.09 (-0.21; 0.03)	0.07 (-0.05; 0.19)
	Normal (n= 316)	0.24 (0.12; 0.36)	0.09 (-0.03; 0.21)	0.26 (0.14; 0.38)
	Acceleration (n= 116)	0.42 (0.24; 0.59)	0.13 (-0.04; 0.30)	0.52 (0.34; 0.70)

[a]Regression coefficients are linear regression coefficients based on SD scores of the outcome.
[b]Models are adjusted for family-based sociodemographic factors (maternal age and educational level), maternal lifestyle-related factors (pre-pregnancy body mass index, smoking during pregnancy, folic acid use during pregnancy, and parity), and childhood factors (age at visit, sex, ethnicity/race, and breastfeeding).
[c]Regression coefficients are linear regression coefficients based on SD scores of natural log-transformed outcome measures.

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eTable 5. Visceral and Organ Fat for 9 Different Growth Patterns

Fetal Growth	Infant Growth	Medians (90% range)		
		Visceral fat (g) (n= 2731)	**Liver fat fraction (%) (n= 3058)**	**Pericardial fat (g)[a] (n= 2839)**
Deceleration	Deceleration (n= 78)	307 (177; 714)	1.9 (1.3; 4.9)	9.9 (4.1; 15.5)
	Normal (n= 261)	330 (155; 701)	1.9 (1.3; 4.4)	9.9 (5.1; 18.7)
	Acceleration (n= 263)	412 (190; 957)	2.2 (1.4; 5.3)	10.2 (5.2; 21.0)
Normal	Deceleration (n= 213)	338 (187; 694)	1.9 (1.3; 3.4)	10.1 (5.0; 21.2)
	Normal (n= 533)	365 (179; 803)	2.0 (1.3; 3.8)	10.4 (5.1; 20.1)
	Acceleration (n= 271)	398 (207; 956)	2.1 (1.4; 4.3)	11.3 (5.0; 20.6)
Acceleration	Deceleration (n= 319)	348 (183; 805)	1.9 (1.3; 3.8)	10.7 (5.5; 20.1)
	Normal (n= 316)	396 (213; 854)	2.0 (1.4; 3.6)	11.6 (5.9; 21.4)
	Acceleration (n= 116)	411 (209; 982)	2.0 (1.3; 4.0)	11.7 (6.3; 23.4)

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eTable 6. Associations of Fetal and Infant Growth With Childhood Body Composition and Adiposity

		Standard Deviation Scores, Regression Coefficients (95% CI)					
Fetal Growth	**Infant Growth**	**Body mass index[a,b] (n= 3205)**	**Fat mass index[b,c] (n= 3185)**	**Fat free mass index[a,b] (n= 3185)**	**Visceral fat index[b,c] (n= 2731)**	**Liver fat fraction[b,c] (n= 3058)**	**Pericardial fat index[b,c] (n= 2839)**
Deceleration	Deceleration (n= 78)	-0.30 (-0.52; -0.08)	-0.16 (-0.37; 0.05)	-0.22 (-0.43; -0.01)	0.04 (-0.22; 0.29)	-0.04 (-0.27; 0.19)	-0.04 (-0.28; 0.21)
	Normal (n= 261)	-0.09 (-0.23; 0.05)	-0.02 (-0.15; 0.12)	-0.10 (-0.23; -0.04)	-0.15 (-0.30; 0.01)	-0.01 (-0.16; 0.13)	-0.04 (-0.19; 0.11)
	Acceleration (n= 263)	0.39 (0.25; 0.53)	0.32 (0.19; 0.46)	0.26 (0.12; 0.39)	0.26 (0.10; 0.41)	0.41 (0.27; 0.56)	-0.05 (-0.20; 0.11)
Normal	Deceleration (n= 213)	-0.21 (-0.36; -0.06)	-0.16 (-0.31; -0.02)	-0.15 (-0.29; -0.01)	-0.06 (-0.22; -0.10)	-0.10 (-0.25; 0.06)	0.05 (-0.11; 0.22)
	Normal (n= 533)	Reference	Reference	Reference	Reference	Reference	Reference
	Acceleration (n= 271)	0.52 (0.38; 0.66)	0.31 (0.18; 0.45)	0.44 (0.31; 0.57)	0.14 (-0.01; 0.29)	0.16 (0.02; 0.30)	-0.03 (-0.18; 0.13)
Acceleration	Deceleration (n= 319)	-0.03 (-0.16; 0.10)	-0.07 (-0.20; 0.06)	0.10 (-0.02; 0.22)	-0.02 (-0.17; 0.12)	-0.04 (-0.18; 0.09)	0.17 (0.02; 0.31)
	Normal (n= 316)	0.28 (0.15; 0.42)	0.13 (-0.003; 0.25)	0.30 (0.18; 0.42)	0.13 (-0.02; 0.27)	0.05 (-0.08; 0.19)	0.09 (-0.05; 0.24)
	Acceleration (n= 116)	0.59 (0.40; 0.78)	0.30 (0.12; 0.49)	0.61 (0.43; 0.79)	0.12 (-0.09; 0.33)	0.02 (-0.18; 0.21)	0.11 (-0.10; 0.32)
P value for interaction		.04	.03	.09	.09	<.001	.45

[a]Regression coefficients are linear regression coefficients based on SD scores of the outcome.
[b]Models are adjusted for childhood age at visit and sex. *P* value of interaction term is between fetal and infant growth in model adjusted for childhood age at visit and sex
[c]Regression coefficients are linear regression coefficients based on SD scores of natural log-transformed outcome measures.

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eTable 7. Associations of Infant Growth Patterns With Childhood Body Composition

Characteristics	Standard Deviation Scores, Regression Coefficients (95% CI)		
	Body mass index[a,b] (n= 3205)	Fat mass index[b,c] (n= 3185)	Fat free mass index[a,b] (n= 3185)
Children born small for gestational age			
PWV, kg/y (n= 161)	0.15 (0.07; 0.24)	0.09 (0.01; 0.18)	0.12 (0.03; 0.20)
BMIAP (n= 151)	0.35 (0.12; 0.58)	0.28 (0.05; 0.50)	0.31 (0.09; 0.52)
AGEAP, mo (n= 151)	0.31 (-0.004; 0.62)	0.26 (-0.05; 0.57)	0.19 (-0.10; 0.48)
Children born appropriate for gestational age			
PWV, kg/y (n= 2352)	0.13 (0.11; 0.15)	0.07 (0.05; 0.09)	0.12 (0.10; 0.14)
BMIAP (n= 2207)	0.40 (0.35; 0.45)	0.29 (0.25; 0.34)	0.45 (0.40; 0.50)
AGEAP, mo (n= 2207)	0.07 (-0.01; 0.14)	0.03 (-0.05; 0.10)	0.07 (0.0004; 0.15)
Children born large for gestational age			
PWV, kg/y (n= 195)	0.16 (0.10; 0.23)	0.12 (0.06; 0.18)	0.11 (0.05; 0.18)
BMIAP (n= 185)	0.41 (0.26; 0.56)	0.30 (0.14; 0.45)	0.46 (0.31; 0.61)
AGEAP, mo (n= 185)	0.21 (-0.02; 0.45)	0.17 (-0.06; 0.40)	0.13 (-0.11; 0.36)

Abbreviations: PWV, peak weight velocity; BMIAP, body mass index at adiposity peak (calculated as weight in kilograms divided by height in meters squared); AGEAP, age at adiposity peak.

[a]Regression coefficients are linear regression coefficients based on SD scores of the outcome.

[b]Models are adjusted for family-based sociodemographic factors (maternal age and educational level), maternal lifestyle-related factors (pre-pregnancy body mass index, smoking during pregnancy, folic acid use during pregnancy, and parity), and childhood factors (age at visit, sex, ethnicity/race, birth weight, and breastfeeding).

[c]Regression coefficients are linear regression coefficients based on SD scores of natural log-transformed outcome measures.

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eTable 8. Associations of Infant Growth Patterns With Childhood Body Composition and Adiposity

Characteristics	Standard Deviation Scores, Regression Coefficients (95% CI)					
	Body mass index[a,b] (n= 3205)	**Fat mass index[b,c] (n= 3185)**	**Fat free mass index[a,b] (n= 3185)**	**Visceral fat index[b,c] (n= 2731)**	**Liver fat fraction[b,c] (n= 3058)**	**Pericardial fat index[b,c] (n= 2839)**
Children born small for gestational age						
PWV, kg/y (n= 161)	0.16 (0.07; 0.25)	0.10 (0.01; 0.19)	0.12 (0.03; 0.20)	0.10 (0.02; 0.18)	0.12 (0.05; 0.19)	0.03 (-0.04; 0.11)
BMIAP (n= 151)	0.35 (0.11; 0.59)	0.26 (0.02; 0. 50)	0.32 (0.11; 0.53)	0.19 (-0.01; 0.39)	0.31 (0.13; 0.48)	0.05 (-0.14; 0.25)
AGEAP, mo (n= 151)	0.24 (-0.08; 0.57)	0.19 (-0.13; 0.51)	0.17 (-0.12; 0.46)	0.24 (-0.06; 0.552)	0.002 (-0.27; 0.28)	0.08 (-0.21; 0.37)
Children born appropriate for gestational age						
PWV, kg/y (n= 2352)	0.16 (0.14; 0.18)	0.10 (0.08; 0.12	0.13 (0.11; 0.15)	0.05 (0.03; 0.08)	0.05 (0.03; 0.07)	0.03 (0.004; 0.05)
BMIAP (n= 2207)	0.47 (0.42; 0.52)	0.34 (0.29; 0.39)	0.49 (0.45; 0.54)	0.20 (0.14; 0.26)	0.09 (0.04; 0.15)	0.16 (0.10; 0.22)
AGEAP, mo (n= 2207)	-0.02 (-0.10; 0.06)	-0.04 (-0.11; 0.04)	0.01 (-0.07; 0.08)	-0.02 (-0.11; 0.07)	-0.02 (-0.11; 0.06)	-0.02 (-0.10; 0.07)
Children born large for gestational age						
PWV, kg/y (n= 195)	0.17 (0.10; 0.23)	0.13 (0.07; 0.19)	0.10 (0.04; 0.17)	0.07 (0.01; 0.13)	0.06 (0.01; 0.12)	0.04 (-0.03; 0.10)
BMIAP (n= 185)	0.40 (0.24; 0.56)	0.29 (0.12; 0.45)	0.46 (0.31; 0.61)	0.06 (-0.11; 0.23)	0.09 (-0.07; 0.24)	0.06 (-0.11; 0.23)
AGEAP, mo (n= 185)	0.13 (-0.12; 0.37)	0.09 (-0.15; 0.34)	0.08 (-0.15; 0.31)	-0.10 (-0.35; 0.16)	0.03 (-0.20; 0.27)	0.09 (-0.17; 0.34)

Abbreviations: PWV, peak weight velocity; BMIAP, body mass index at adiposity peak (calculated as weight in kilograms divided by height in meters squared); AGEAP, age at adiposity peak.

[a]Regression coefficients are linear regression coefficients based on SD scores of the outcome.

[b]Models are adjusted for childhood age at visit and sex.

[c]Regression coefficients are linear regression coefficients based on SD scores of natural log-transformed outcome measures.

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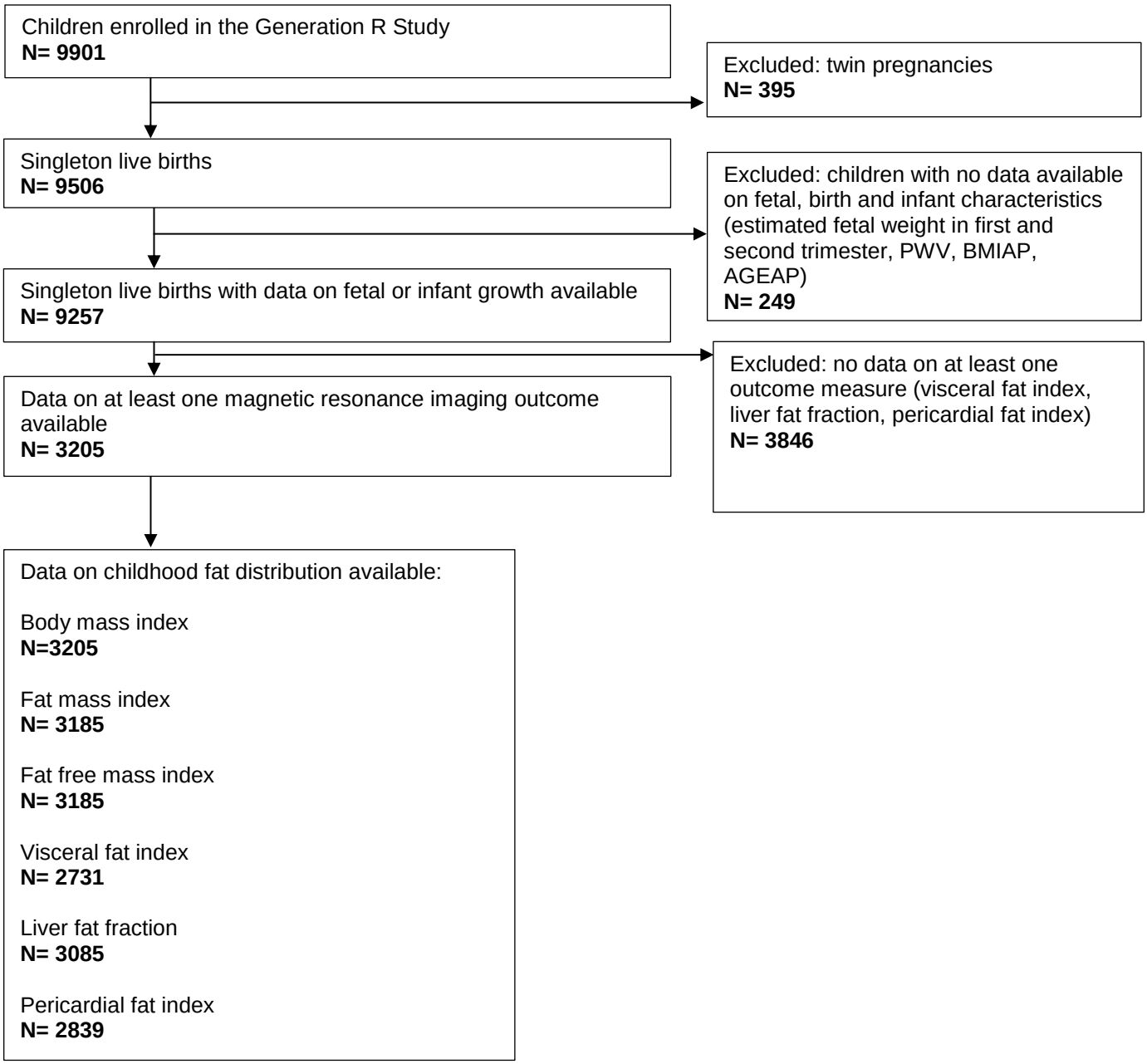
eFigure. Flowchart of Participants



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