Figure 1 Flowchart of the study and participant selections

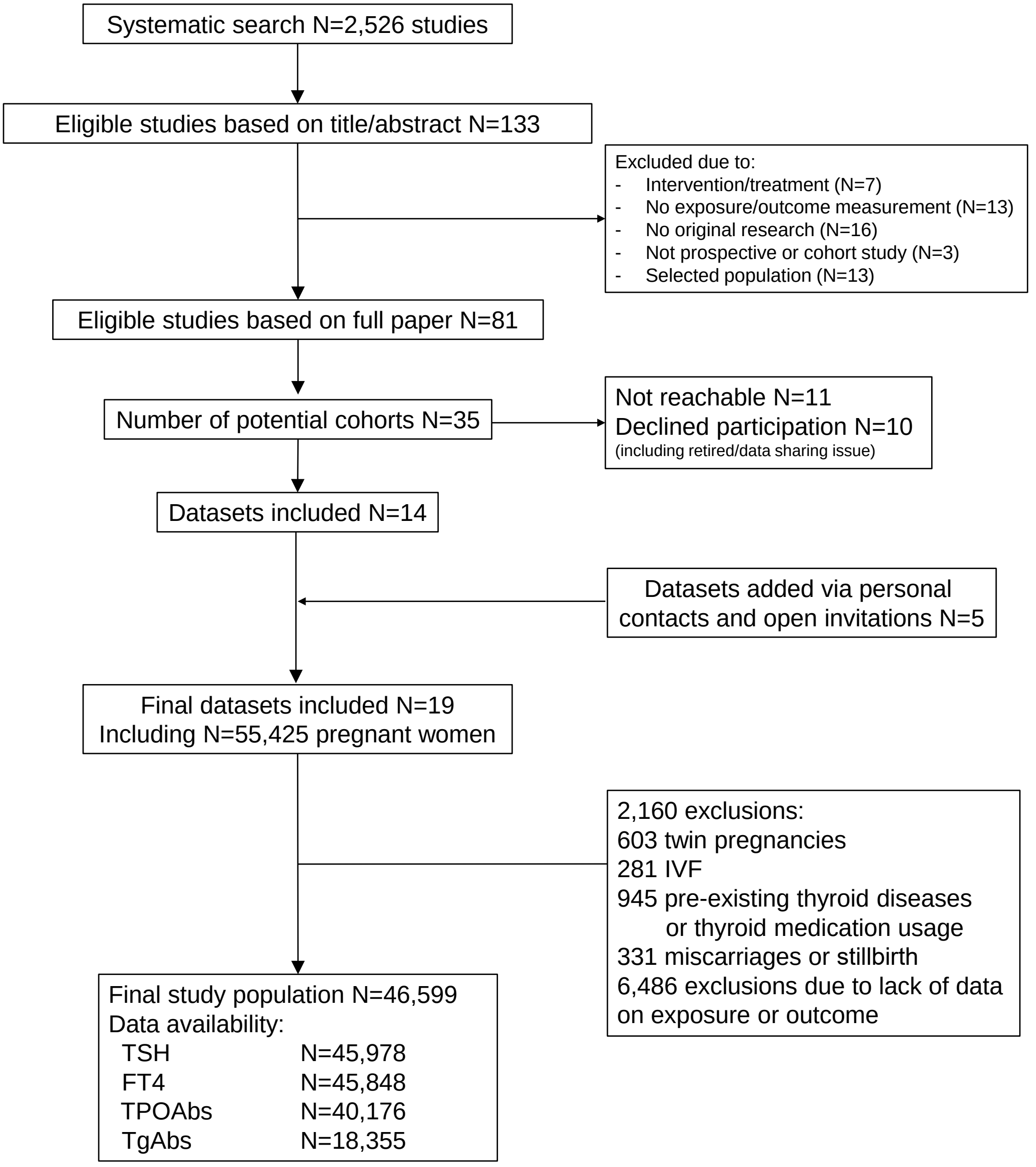
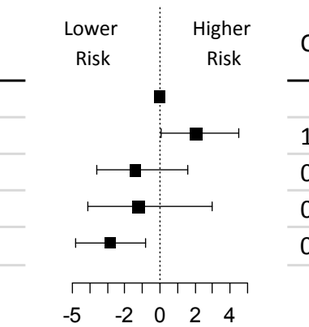
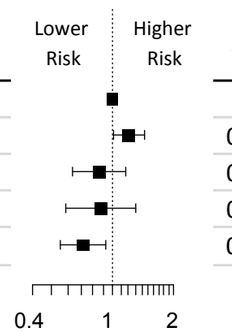


Figure 2

A **Small for Gestational Age**

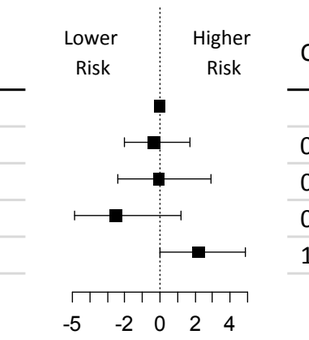
	N of Events/ Total (%)	Risk Difference (95% CI), %	OR (95% CI)	*P*-value
Euthyroid (reference group)	3,685/36,838 (10.0)			
Subclinical Hypothyroidism	141/1,222 (11.5)	2.0 (0.07 to 4.5)	1.20 (1.00 to 1.44)	0.042
Subclinical Hyperthyroidism	48/588 (8.2)	-1.4 (-3.6 to 1.6)	0.86 (0.63 to 1.16)	0.32
Overt Hyperthyroidism	27/325 (8.3)	-1.3 (-4.1 to 3.0)	0.87 (0.58 to 1.30)	0.50
Isolated Hypothyroxinemia	66/894 (7.4)	-2.9 (-4.8 to -0.8)	0.71 (0.55 to 0.92)	0.010

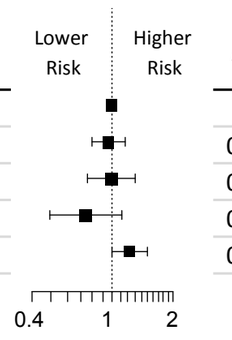




B **Large for Gestational Age**

	N of Events/ Total (%)	Risk Difference (95% CI), %	OR (95% CI)	*P*-value
Euthyroid (reference group)	3,619/36,838 (9.8)			
Subclinical Hypothyroidism	119/1,222 (9.7)	-0.4 (-2.0 to 1.7)	0.96 (0.79 to 1.16)	0.69
Subclinical Hyperthyroidism	62/588 (10.5)	-0.1 (-2.4 to 2.9)	0.99 (0.75 to 1.30)	0.96
Overt Hyperthyroidism	26/325 (8.0)	-2.5 (-4.9 to 1.2)	0.74 (0.49 to 1.11)	0.15
Isolated Hypothyroxinemia	113/894 (12.6)	2.2 (-0.02 to 4.9)	1.22 (0.99 to 1.50)	0.052





C **Birth Weight (gr)**

	β (95% CI)	*P*-value
Euthyroid (reference group)		
Subclinical Hypothyroidism	-34.5 (-59 to -10)	0.005
Subclinical Hyperthyroidism	20.9 (-14 to 55)	0.23
Overt Hyperthyroidism	-33.2 (-79 to 12)	0.15
Isolated Hypothyroxinemia	42.4 (14 to 70)	0.003

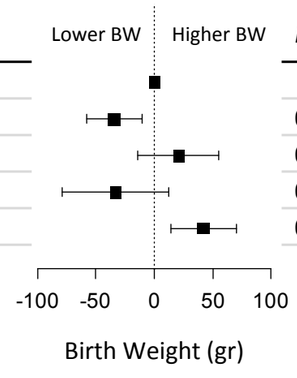


Figure 3A

	Small for Gestational Age			Large for Gestational Age		
	N	OR (95% CI)	*P*-value	OR (95% CI)		*P*-value
TSH						
Full range	45,978	1.04 (1.01 to 1.08)	0.006	0.98 (0.95 to 1.02)		0.53
Normal range*	43,685	1.05 (1.01 to 1.09)	0.007	0.99 (0.96 to 1.03)		0.95
FT4						
Full range	45,848	1.08 (1.05 to 1.12)	<0.0001	0.91 (0.89 to 0.94)		<0.0001
Normal range*	43,592	1.07 (1.03 to 1.12)	<0.0001	0.91 (0.88 to 0.95)		<0.0001

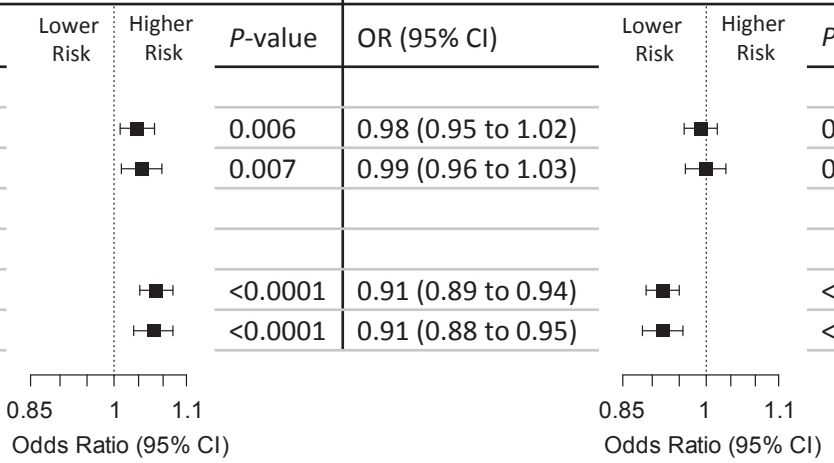
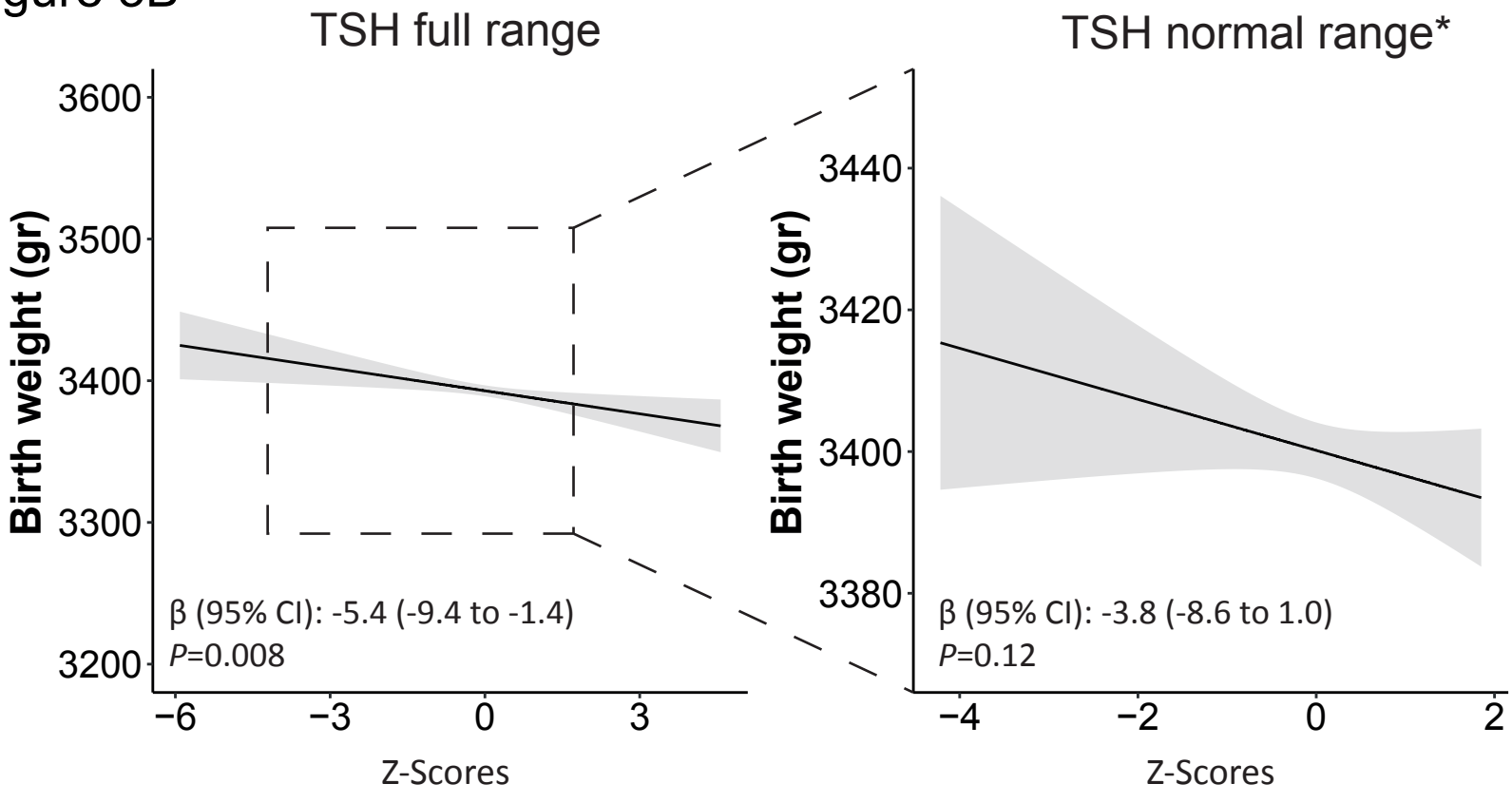
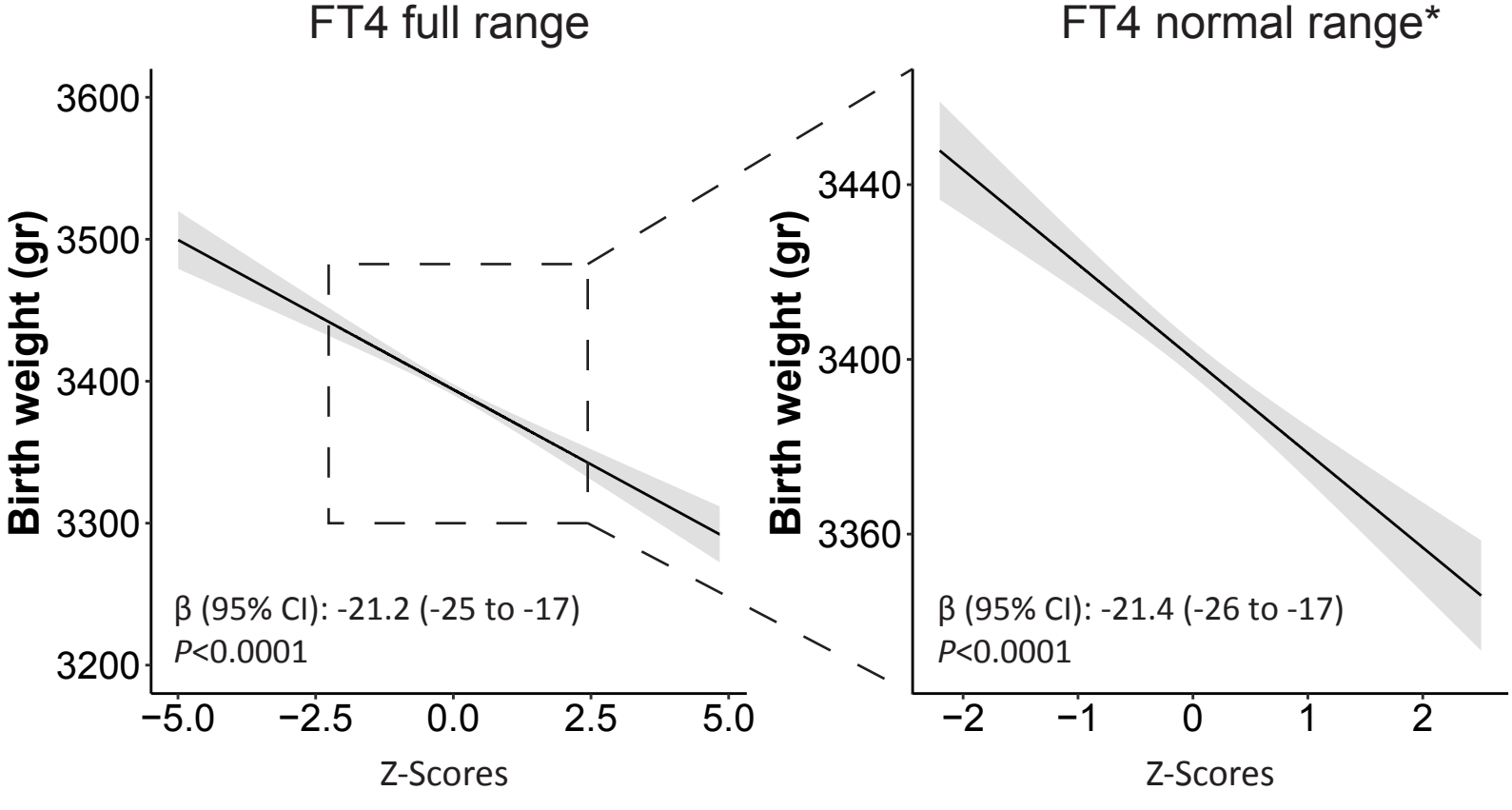


Figure 3B


TSH full range
TSH normal range*
Birth weight (gr)
3600
3500
3400
3300
3200
3440
3420
3400
3380
β (95% CI): -5.4 (-9.4 to -1.4)
P=0.008
β (95% CI): -3.8 (-8.6 to 1.0)
P=0.12
−6
−3
0
3
−4
−2
0
2
Z-Scores
Z-Scores


FT4 full range
FT4 normal range*
Birth weight (gr)
3600
3500
3400
3300
3200
3440
3400
3360
β (95% CI): -21.2 (-25 to -17)
P<0.0001
β (95% CI): -21.4 (-26 to -17)
P<0.0001
−5.0
−2.5
0.0
2.5
5.0
−2
−1
0
1
2
Z-Scores
Z-Scores

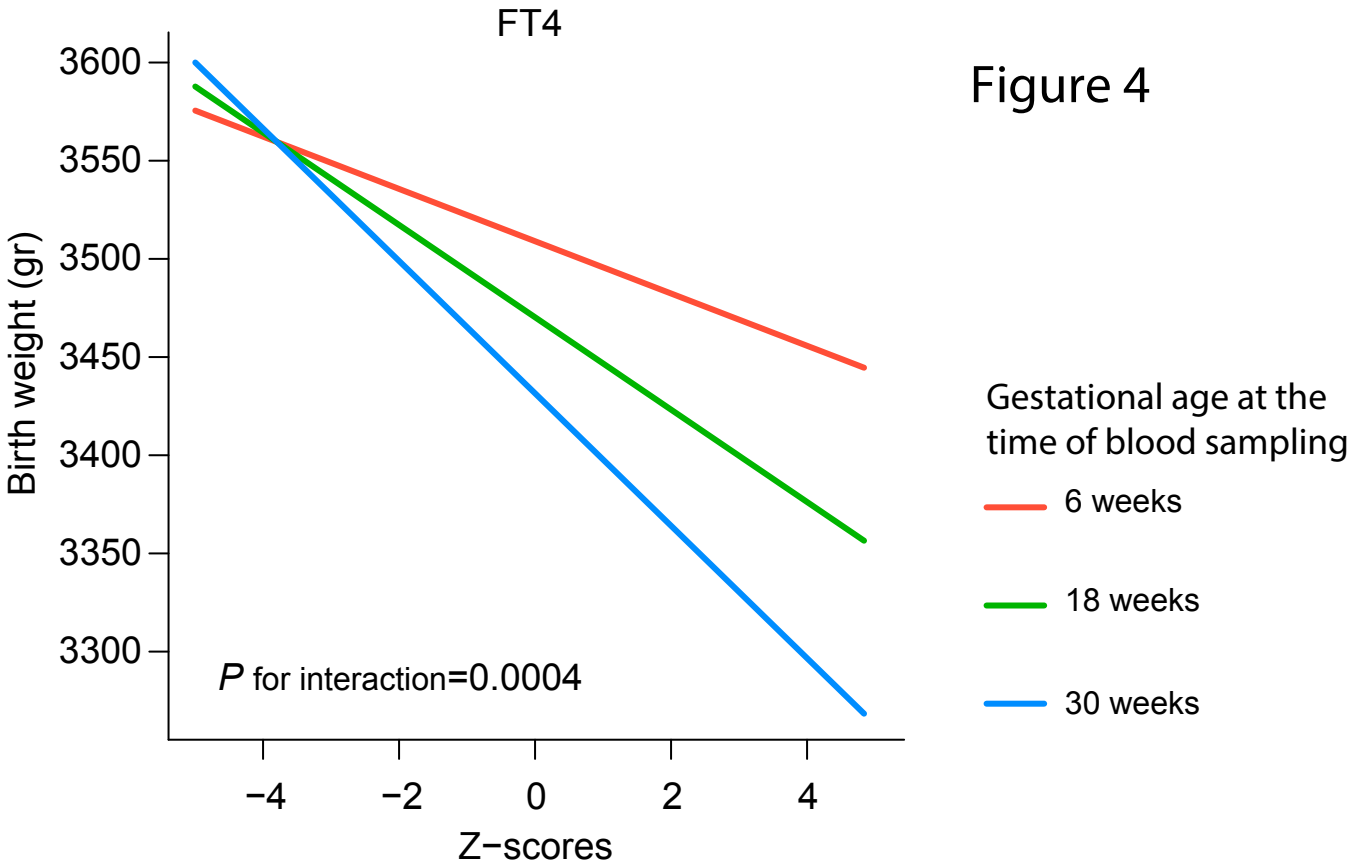

FT4
Birth weight (gr)
3600
3550
3500
3450
3400
3350
3300
P for interaction=0.0004
−4
−2
0
2
4
Z−scores
Gestational age at the time of blood sampling
6 weeks
18 weeks
30 weeks

Figure 4

Figure 1. Flowchart of the study and population selection.

Figure 2. Association of thyroid function test abnormalities with small or large for gestational age and birth weight.

All analyses were adjusted for maternal age, BMI, ethnicity, smoking, parity, gestational age at blood sampling, fetal sex and gestational age at birth (for birth weight only). Risk differences and 95% Cis were back-calculated from the results of multivariable models and adjusted for baseline risk imprecision.

Figure 3. Association of TSH and FT4 concentrations with small or large for gestational age and birth weight.

Figures show the association of maternal TSH and FT4 in full range (left panels) or within the normal range (2.5th-97.5th percentiles) with small or large for gestational age and birth weight (grams). All analyses were adjusted for maternal age, BMI, ethnicity, smoking, parity, gestational age at blood sampling, fetal sex and gestational age at birth (for birth weight only).

* Normal range (2.5th-97.5th percentiles) is defined based on cohort-specific absolute measurements of TSH or FT4, which in the standardized data corresponds to TSH Z-score range of -4.2 to 1.8 and FT4 Z-score range of -2.2 to 2.5.

Figure 4. Association of FT4 Z-scores with birth weight according to gestational age at the time of sampling.

Figure shows the association of FT4 Z-scores with birth weight (grams) stratified by gestational age at the time of sampling. The analysis was adjusted for maternal age, BMI, ethnicity, smoking, parity, gestational age at blood sampling and fetal sex and gestational age at birth.