

Supplementary Online Content

Cox B, Luyten LJ, Dockx Y, et al. Association between maternal prepregnancy body mass index and anthropometric parameters, blood pressure, and retinal microvasculature in children age 4 to 6 years. *JAMA Netw Open*. 2020;3(5):e204662. 10.1001/jamanetworkopen.2020.4662

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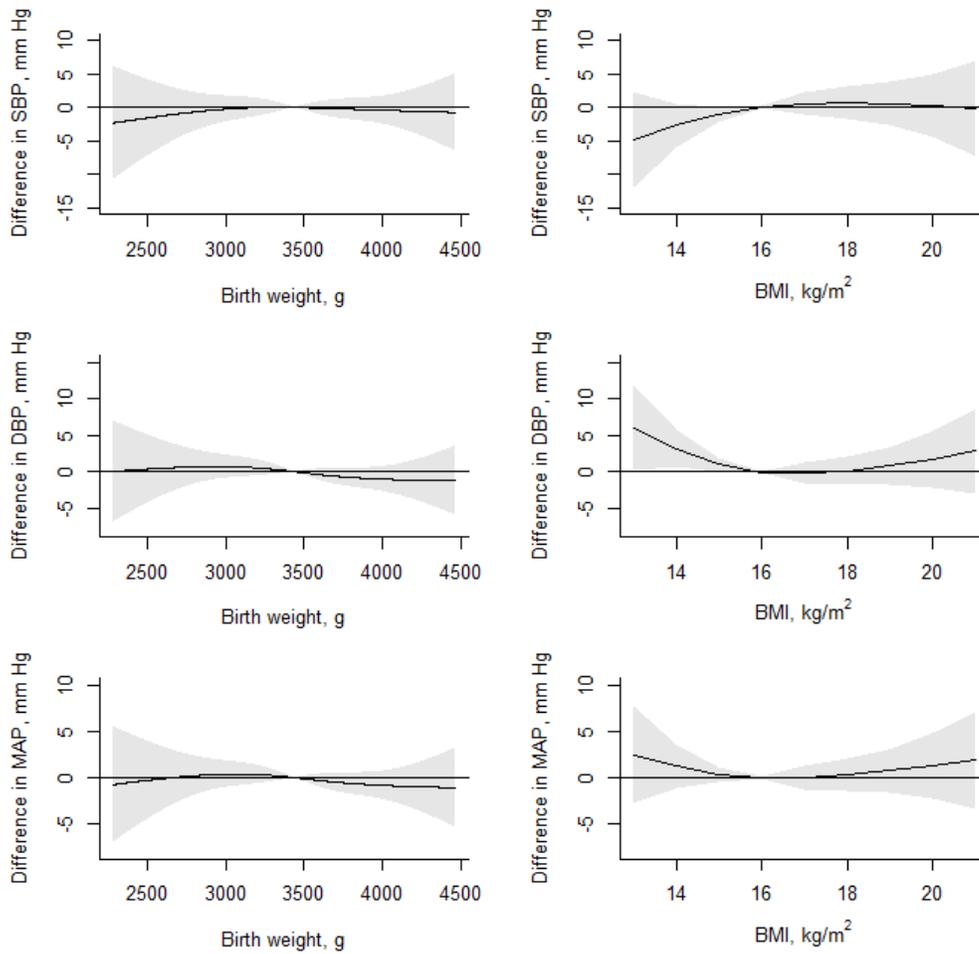
This supplementary material has been provided by the authors to give readers additional information about their work.

eTable. Characteristics of the ENVIRONAGE sample compared to all births in Flanders.

	ENVIRONAGE sample (n=240)	All deliveries Flanders (n=606877)[§]
<u>Mother</u>		
Age, years	29·9 (25·0-35·0)	29·5 (23·5-35·8)
Parity		
1	50·8	46·9
2	37·9	34·7
≥3	11·3	18·4
Maternal educational level		
Low	7·1	13·1
Middle	26·7	40·8
High	66·3	46·1
<u>Newborn</u>		
Boys	47·5	51·4
Gestational age, weeks	39·2 (37-41)	38·9 (37-41)
Mild preterm (34-36 wks)	4·6	4·8
Moderate preterm (32-33 wks)	0·4	0·6
Extreme preterm (<32 wks)	0·0	0·6
Birth weight, g	3445 (2879-4046)	3360 (2740-3965)
European ethnicity	93·8	87·7

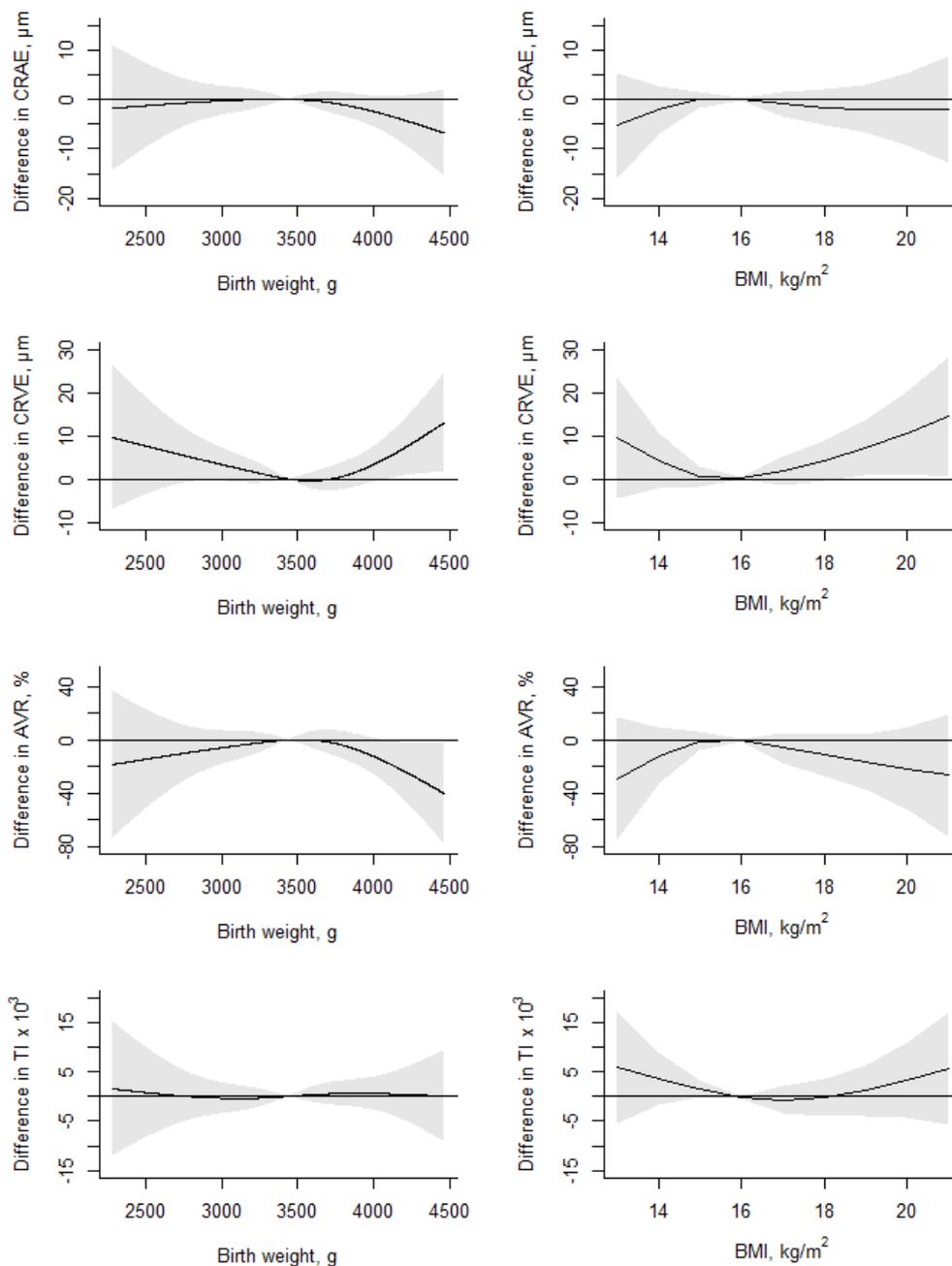
Values are percentages or means (10th-90th percentiles).

[§]2002-2011 (Cox et al., 2013).¹



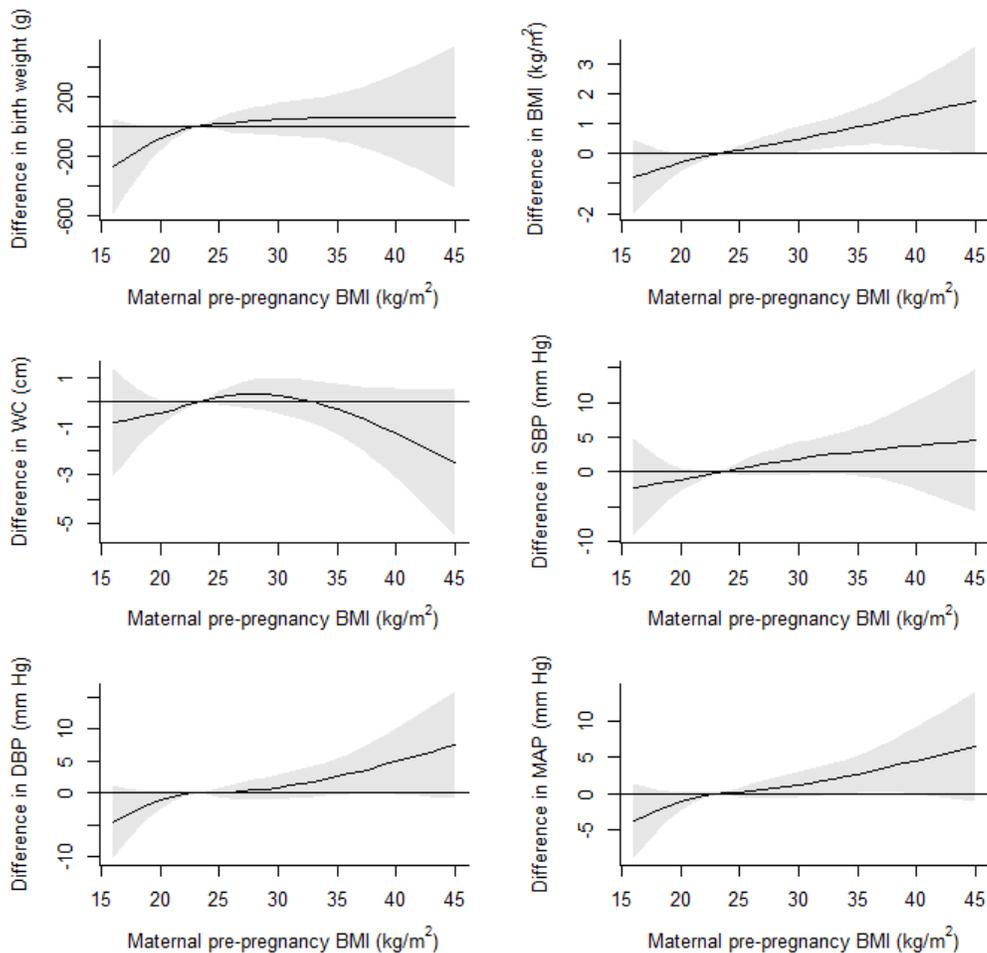
eFigure 1. The shape of the associations between child’s birth weight (left) or BMI (right) and blood pressure parameters.

Estimates represent the difference in blood pressure (with 95% CI) relative to the median birth weight (3440 g) or BMI (15.9 kg/m²) and were adjusted for sex, gestational age, parity, child’s ethnicity, maternal age at delivery, maternal education, maternal smoking, maternal pre-pregnancy BMI, gestational weight gain, date and season of follow-up visit, and child’s age. Estimates for child’s birth weight were adjusted for child’s BMI and vice versa. Child’s birth weight and BMI were modeled using a natural cubic spline with 3 degrees of freedom. Abbreviations: CI, confidence interval; BMI, body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; MAP, mean arterial pressure.



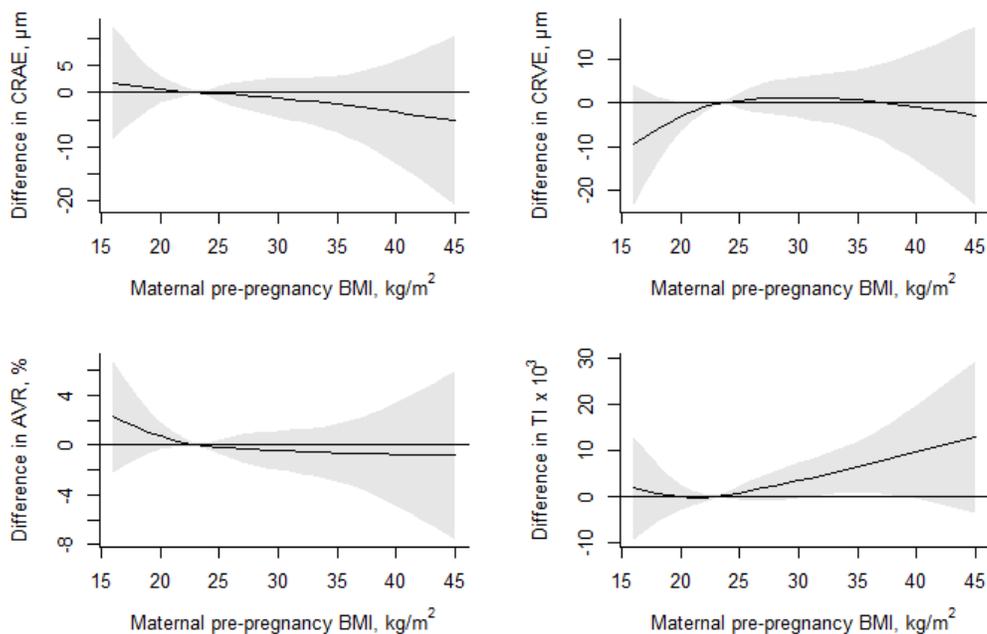
eFigure 2. The shape of the associations between child's birth weight (left) or BMI (right) and retinal microcirculation parameters.

Estimates represent the difference in retinal microcirculation (with 95% CI) relative to the median birth weight (3440 g) or BMI (15.9 kg/m²) and were adjusted for sex, gestational age, parity, child's ethnicity, maternal age at delivery, maternal education, maternal smoking, maternal pre-pregnancy BMI, gestational weight gain, date and season of follow-up visit, child's age, and MAP. Estimates for child's birth weight were adjusted for child's BMI and vice versa. Estimates for CRAE were additionally adjusted for CRVE and vice versa. Child's birth weight and BMI were modeled using a natural cubic spline with 3 degrees of freedom. Abbreviations: CI, confidence interval; BMI, body mass index; MAP, mean arterial pressure; CRAE, central retinal arteriolar equivalent; CRVE, central retinal venular equivalent; AVR, arteriole-to-venule ratio; TI, tortuosity index.



eFigure 3. The shape of the associations between maternal pre-pregnancy BMI and child’s birth weight, BMI, waist circumference, and blood pressure parameters.

Estimates represent the difference in outcomes (with 95% CI) relative to the median maternal pre-pregnancy BMI (23.4 kg/m²) and were adjusted for sex, gestational age, parity, child’s ethnicity, maternal age at delivery, maternal education, maternal smoking, gestational weight gain, date and season of follow-up visit, child’s age, birth weight (except for the model for birth weight), and BMI (except for the model for birth weight, BMI, and WC). Child’s birth weight, BMI, and maternal pre-pregnancy BMI were modeled using a natural cubic spline with 3 degrees of freedom. Abbreviations: CI, confidence interval; BMI, body mass index; WC, waist circumference; SBP, systolic blood pressure; DBP, diastolic blood pressure; MAP, mean arterial pressure.



eFigure 4. The shape of the associations between maternal pre-pregnancy BMI and child’s retinal microcirculation parameters.

Estimates represent the difference in outcomes (with 95% CI) relative to the median maternal pre-pregnancy BMI (23.4 kg/m²) and were adjusted for sex, gestational age, parity, child’s ethnicity, maternal age at delivery, maternal education, maternal smoking, gestational weight gain, date and season of follow-up visit, child’s age, birth weight, BMI, and MAP. Estimates for CRAE were additionally adjusted for CRVE and vice versa. Child’s birth weight, BMI, and maternal pre-pregnancy BMI were modeled using a natural cubic spline with 3 degrees of freedom. Abbreviations: CI, confidence interval; BMI, body mass index; MAP, mean arterial pressure; CRAE, central retinal arteriolar equivalent; CRVE, central retinal venular equivalent; AVR, arteriole-to-venule ratio; TI, tortuosity index.

References

1. Cox B, Martens E, Nemery B, Vangronsveld J, Nawrot TS. Impact of a stepwise introduction of smoke-free legislation on the rate of preterm births: analysis of routinely collected birth data. *BMJ*. 2013;346:f441.