

Exploring telomere length in mother-newborn pairs in relation to nutritional factors and exposure to multiple toxic metals and potential modifying effects by nutritional factors

Maria Herlin¹, Karin Broberg¹, Annachiara Malin Igra¹, Huiqi Li^{2, 3}, Florencia Harari^{1, 3},
Marie Vahter¹

1. Institute of Environmental Medicine, Karolinska Institutet, P.O. Box 210, SE-171 77, Stockholm, Sweden.
2. Division of Occupational and Environmental Medicine, Department of Laboratory Medicine, Lund University, Lund, Sweden.
3. Department of Occupational and Environmental Medicine, Sahlgrenska University Hospital and University of Gothenburg, Gothenburg, Sweden.

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Table S1. Primers and thermocycling profiles of qPCR for telomeres and *HBB*.

Primers		
Telomere	Forward	5'-CGG TTT GTT TGG GTT TGG GTT TGG GTT TGG GTT TGG GTT-3'
	Reverse	5'-GGC TTG CCT TAC CCT TAC CCT TAC CCT TAC CCT TAC CCT-3'
<i>HBB</i>	Forward	5'-TGT GCT GGC CCA TCA CTT TG-3'
	Reverse	5'-ACC AGC CAC CAC TTT CTG ATA GG-3'
Thermocycling profiles		
Telomere	95 °C 3 min + 25 cycles (95 °C 15 s + 56 °C 1 min)	
<i>HBB</i>	95 °C 3 min + 40 cycles (95 °C 3 s + 60 °C 20 s)	

Table S2. Multivariable-adjusted linear regression between biomarkers of nutrition during pregnancy, in placenta or in cord blood and concurrent relative telomere length in maternal blood, placenta and cord blood.

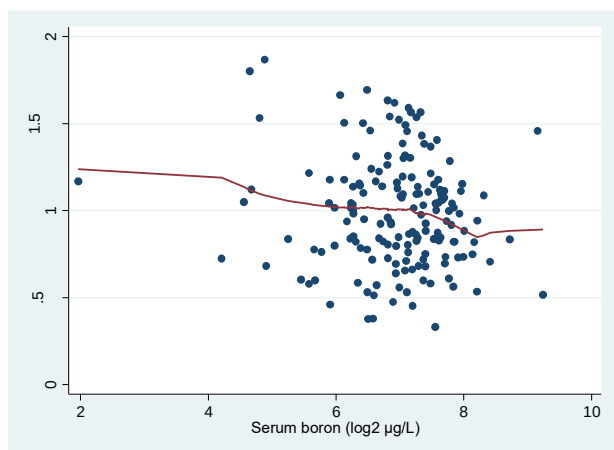
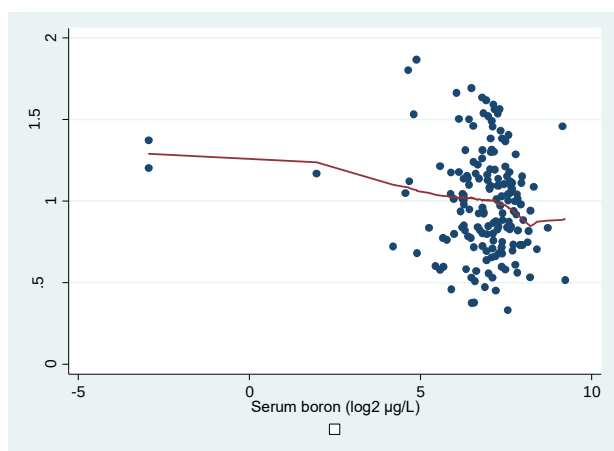
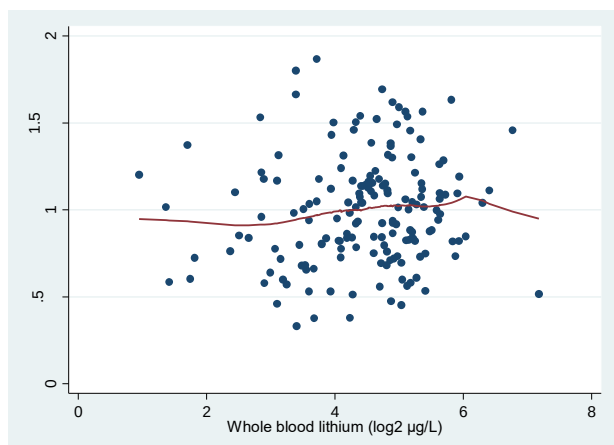
	Model	Maternal blood rTL (n=169) B (95% CI)	p	Placenta rTL (n=99) B (95% CI)	p	Cord blood rTL (n=88) B (95% CI)	p
Zinc	1	Blood (mg/L) 0.046 (0.006; 0.086)	0.025	Placenta (mg/kg) -0.026 (-0.062; 0.010)	0.160	Cord blood (mg/L) -0.087 (-0.138; -0.036)	0.001
	2	0.058 (0.018; 0.097)	0.004	-0.035 (-0.070; 0.0006)	0.054	-0.070 (-0.127; -0.014)	0.016
	3	0.063 (0.023; 0.103) ^c	0.002	-0.020 (-0.056; 0.017)	0.290		
Selenium	1	Serum (µg/L) -0.0027 (-0.0062; 0.0009)	0.139	Placenta (µg/kg) -0.0005 (-0.0017; 0.0006)	0.362	Cord serum (µg/L) 0.0001 (-0.002; 0.002)	0.961
	2	-0.001 (-0.005; 0.002)	0.488	-0.0006 (-0.0018; 0.0005)	0.280	-0.001 (-0.003; 0.002)	0.524
Folate	1	Serum folate (nmol/L) -0.011 (-0.019; -0.002)	0.018	Serum folate (nmol/L) 0.001 (-0.007; 0.009)	0.733	Serum folate (nmol/L) 0.003 (-0.001; 0.007)	0.195
	2	-0.012 (-0.021; -0.003)	0.007	0.0049 (-0.003; 0.013)	0.211	0.003 (-0.002; 0.008)	0.237
	3	-0.013 (-0.021; -0.004)	0.005				
Vitamin D ₃	1	Plasma vitamin D (nmol/L) 0.0004 (-0.0027; 0.0034)	0.820	Plasma vitamin D (nmol/L) 0.0032 (-0.0219; 0.0860)	0.241	Plasma vitamin D (nmol/L) 0.0010 (-0.0007; 0.0027)	0.255
	2	0.0009 (-0.0022; 0.0040)	0.584	0.0039 (0.0009; 0.0069)	0.012	0.0008 (-0.0011; 0.0026)	0.421
	3			0.0037 (0.0007; 0.0067)	0.017		

Model 1. Unadjusted.

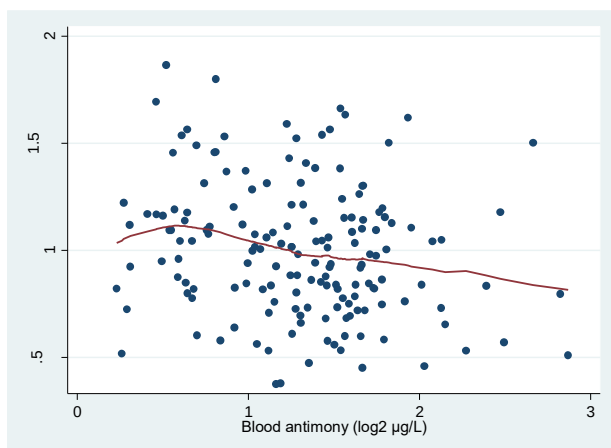
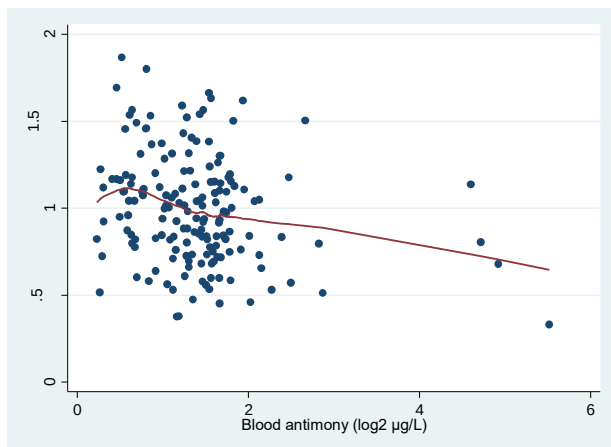
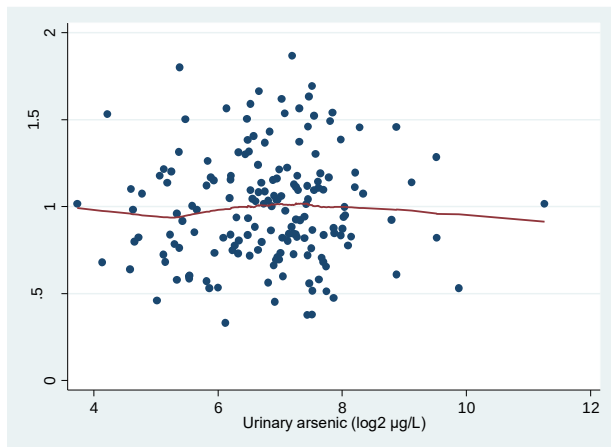
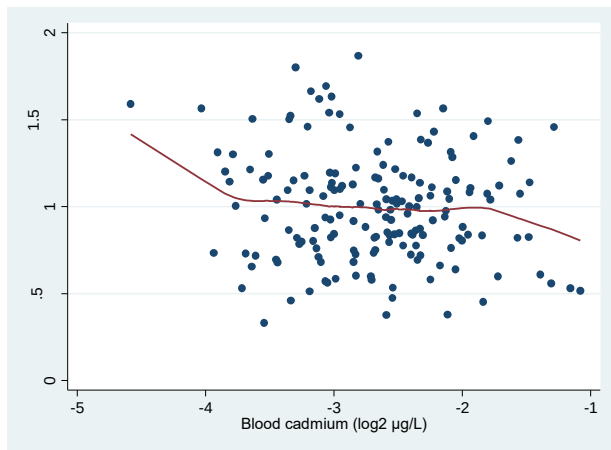
Model 2. Adjusted for mother's age, pre-pregnancy BMI, and education; in placenta models also for gestational week at birth; in cord blood models also for gestational age at birth and birth weight.

Model3. Further adjusted for other nutrients. Maternal rTL: zinc and folate. Placenta rTL: zinc, vitamin D₃ and season.

Figure S1. Scatter plots of associations between toxic metals and rTL in maternal blood leucocytes. Lowess lines indicated.



Two outliers at log2 serum boron <1 excluded



Four outliers at log2 blood antimony > 4 excluded

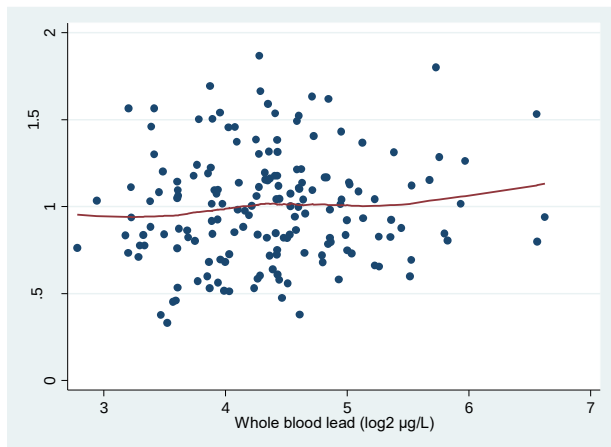
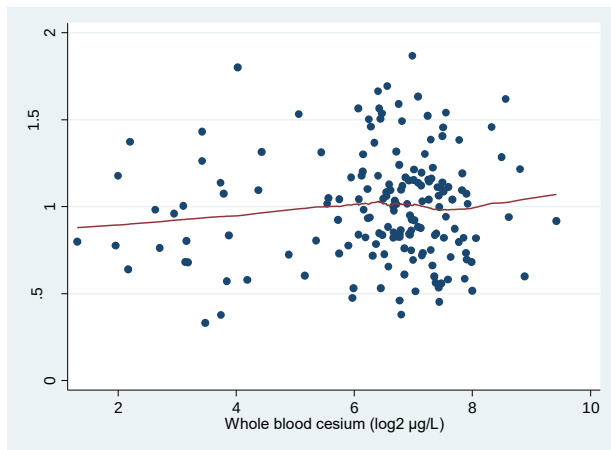
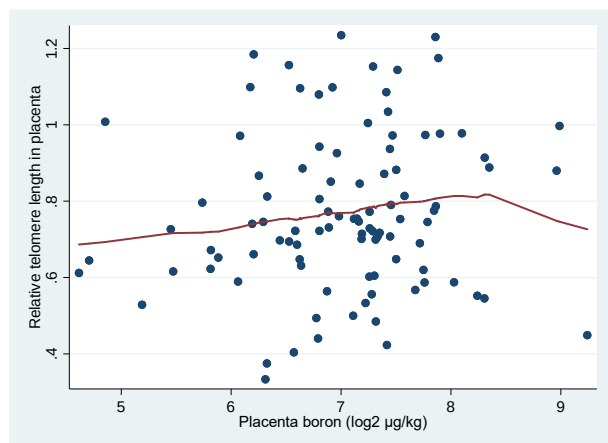
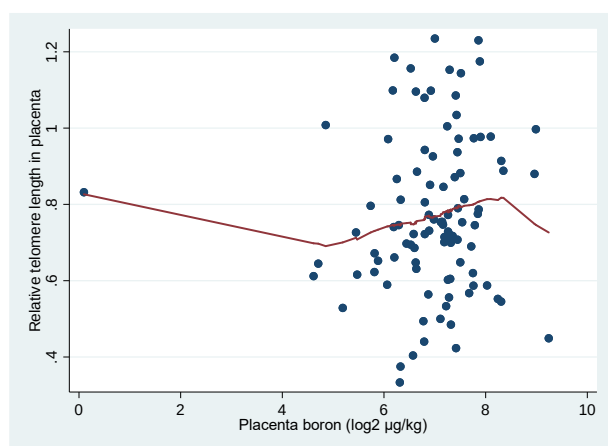
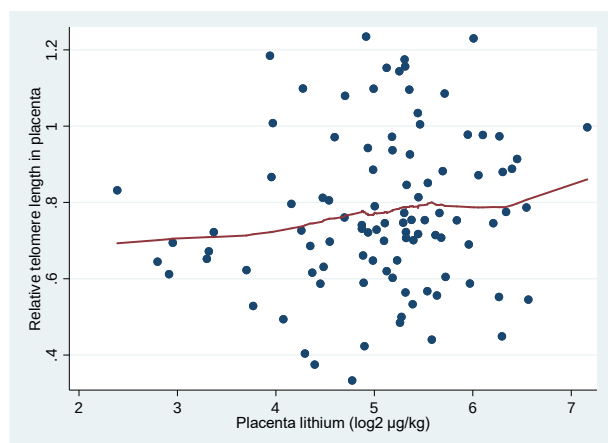
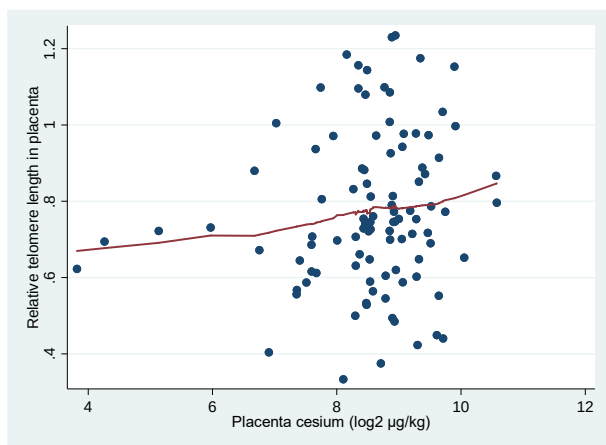
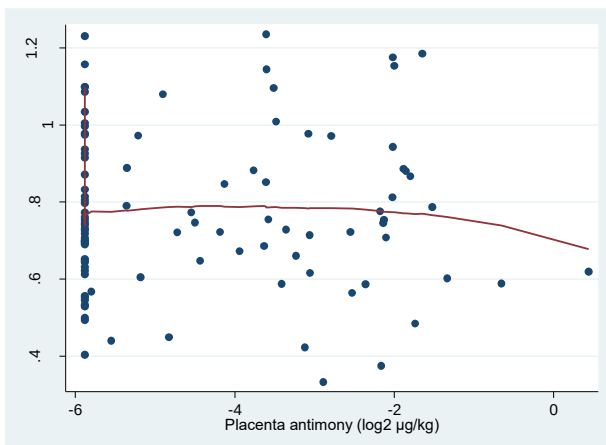
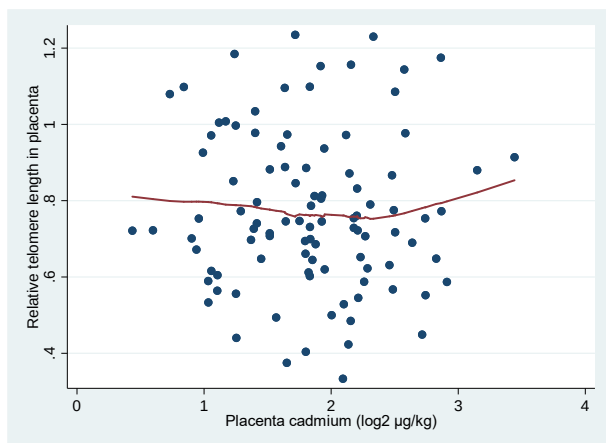
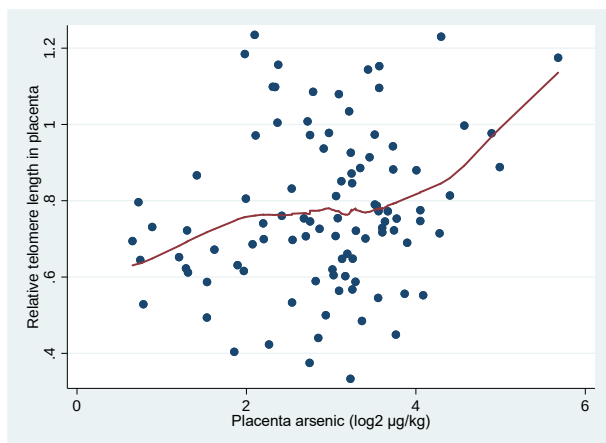


Figure S2. Scatter plots of associations between toxic metals and rTL in placenta. Lowess lines indicated.



One outlier at log2 placenta boron <2 excluded



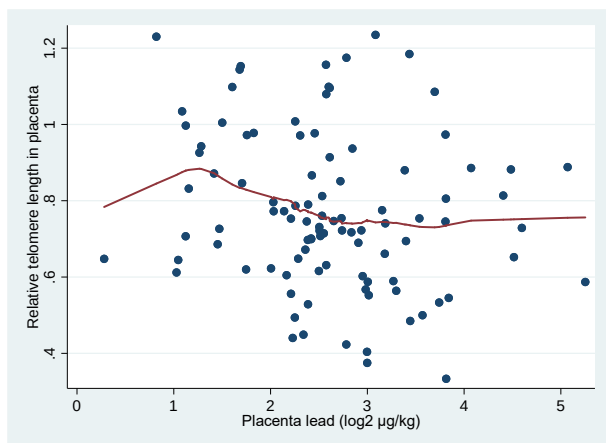
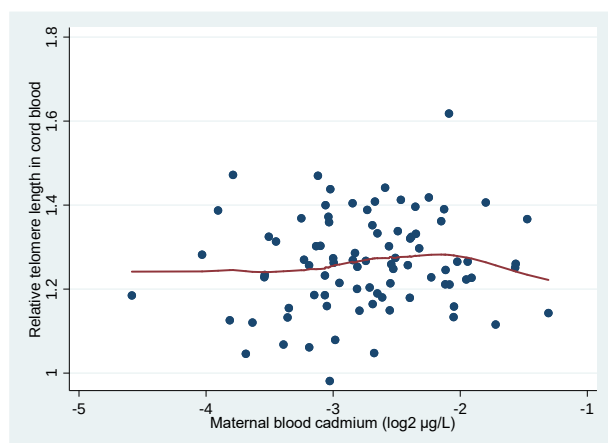
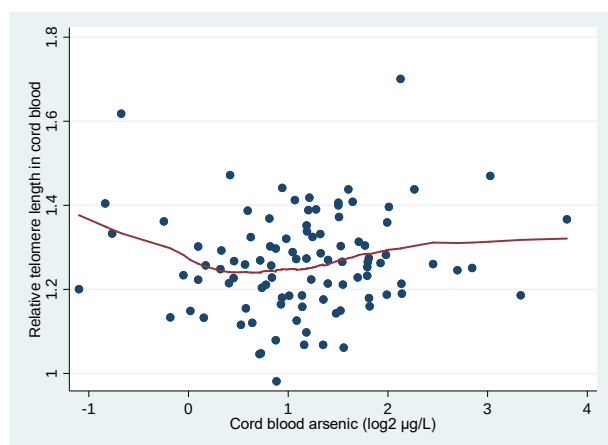
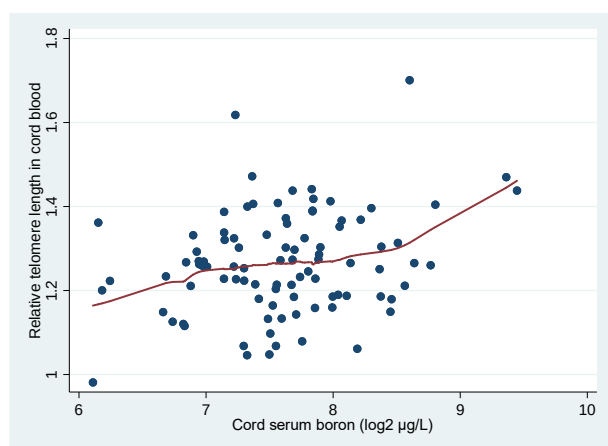
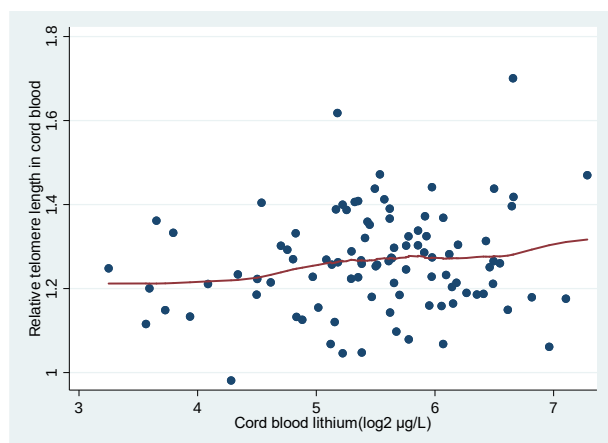
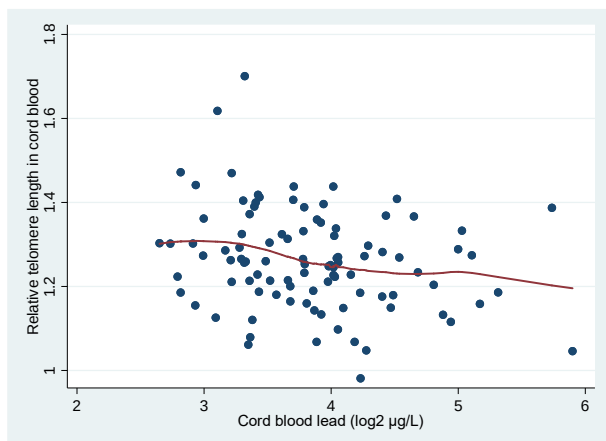
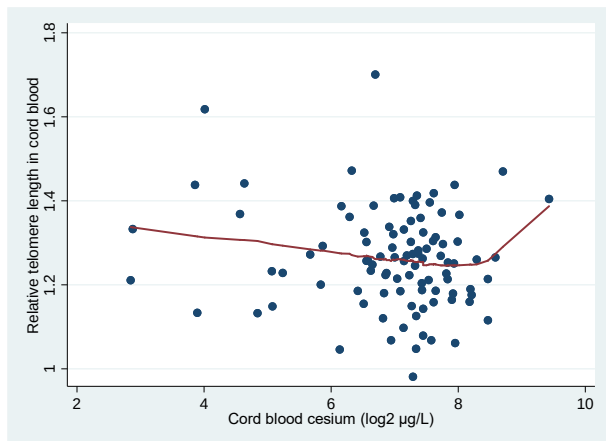
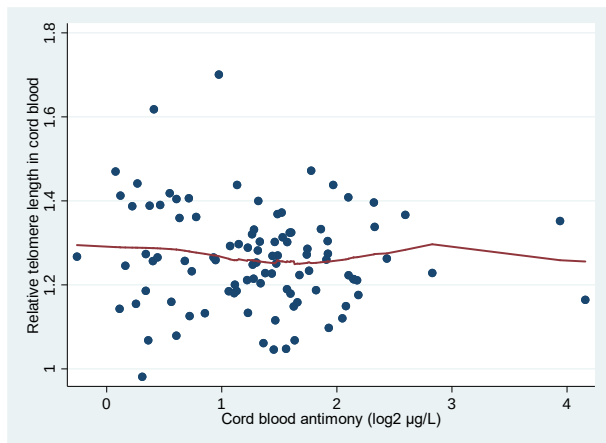
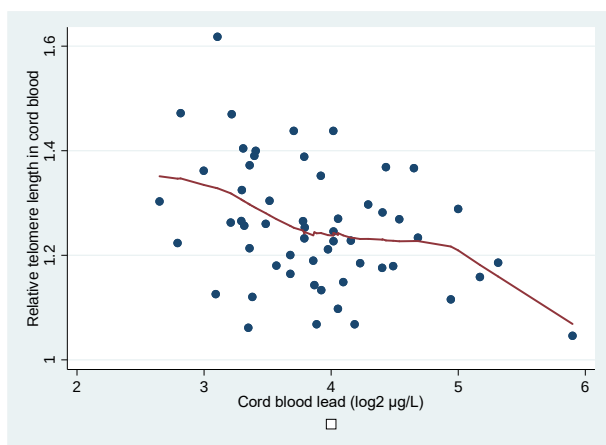


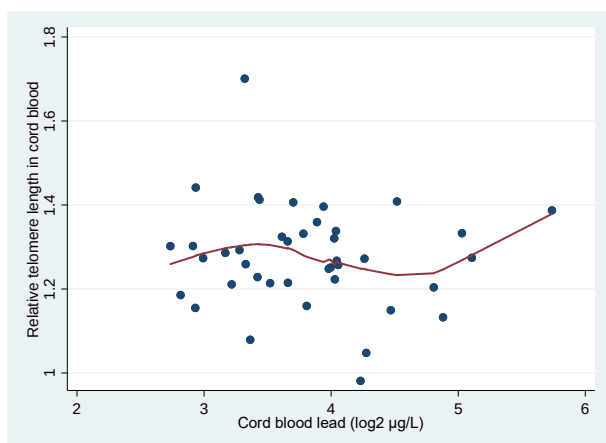
Figure S3. Scatter plots of associations between toxic metals and rTL in cord blood leucocytes. Lowess lines indicated.







Scatter plot for cord blood lead and rTL in BOYS.



Scatter plot for cord blood lead and rTL in GIRLS.