

Additional file 1

Supplementary Table 1. Descriptive statistics among MOS *siblings* and *non-siblings*.

	Siblings (N= 704)	Non-siblings (N=694)
SEX		
Men (N)	329 (46.7%)	343 (49.4%)
Women (N)	375 (53.3%)	351 (59.6%)
ADULT ANTROPOMETRY		
Age (years)	27.9 ± 5.6	29.3 ± 7.4
Height (cm)	174.5 ± 9.7	174.9 ± 9.5
BMI (kg/m ²)	24.9 ± 4.7	25 ± 4.4
BIRTH CHARACTERISTICS		
Birth weight (gram)	3449.9 ± 614.3	3516 ± 580.7
Birth weight (z-score)	-0.1 ± 1.6	-0.1 ± 1.2
Gestational age (weeks)	39.2 ± 2.2	39.5 ± 1.9
Birth length (cm)	50.2 ± 2.2	50.4 ± 2.5
EDUCATION		
Primary school	24 (3.4%)	29 (4.2%)
Secondary school	365 (51.8%)	337 (48.6%)
Higher level	216 (30.7%)	199 (28.7%)
Missing	96 (14.1%)	128 (18.5%)
SMOKING HISTORY		
Yes*	117 (16.6%)	117 (16.9%)
No**	494 (70.2%)	448 (64.4%)
Missing	93 (13.2%)	129 (18.7%)
LUNG FUNCTION		
FEV1 (l per 1 sec)	3.9 ± 0.8	3.8 ± 0.8
FEV1 (z-score)	-0.4 ± 0.9	-0.4 ± 1
FVC(l)	4.8 ± 1.1	4.8 ± 1
FVC (z-score)	-0.1 ± 0.9	-0.1 ± 1
FEV1/FVC (%)	80.9 ± 6.7	80.1 ± 6.9
FEV1/FVC (z-score)	-0.5 ± 0.9	-0.6 ± 0.9

Mean (SD) and proportions; frequency and percentage. FEV1- forced expiratory volume in one second; FVC- forced vital capacity; FEV1/FVC- ratio of FEV1 by FVC.

Supplementary Table 2. Associations between birth parameters and lung function in MPP and MOS.

	MPP			MOS		
	FEV1	FVC	FEV1/FVC	FEV1	FVC	FEV1/FVC
	(z-score)	(z-score)	(z-score)	(z-score)	(z-score)	(z-score)
	r (p)	r (p)	r (p)	r (p)	r (p)	r (p)
Birth weight (gram)	0.013 (0.449)	0.005 (0.763)	0.010 (0.573)	0.082 (0.003)	0.038 (0.174)	0.057 (0.04)
Gestational age (days)	-0.016 (0.363)	-0.017 (0.325)	-0.007 (0.691)	0.07 (0.012)	0.018 (0.514)	0.079 (0.005)
Birth weight (z-score)	0.019 (0.289)	0.018 (0.304)	0.004 (0.829)	0.067 (0.017)	0.053 (0.059)	0.01 (0.712)
Birth length (cm)	-0.015 (0.387)	-0.020 (0.251)	0.003 (0.853)	0.029 (0.312)	0.022 (0.431)	0.005 (0.872)

Univariate analyses; r= correlation coefficient; p= p-value; * p< 0.05 indicates statistical significance

Supplementary Table 3. Birth weight for prediction of lung function in MPP and MOS.

		MPP				MOS			
		R	R ²	95% CI	p-value	R	R ²	95% CI	p-value
FEV1 (z-score)	Model 0	0.019	0.000	-0.014 – 0.048	0.290	0.057	0.003	0 - 0.08	0.044
	Model 1	0.071	0.005	-0.01 – 0.051	0.477	0.07	0.005	0 - 0.09	0.059
	Model 2	0.226	0.051	-0.021 – 0.062	0.362	0.072	0.005	0 - 0.09	0.062
FVC (z-score)	Model 0	0.013	0.000	-0.014 – 0.046	0.456	0.051	0.003	0 - 0.08	0.07
	Model 1	0.071	0.005	-0.025 – 0.057	0.612	0.065	0.004	-0.01 - 0.08	0.092
	Model 2	0.180	0.032	-0.022 – 0.059	0.555	0.089	0.008	-0.01 - 0.08	0.098
FEV1/FVC (z-score)	Model 0	0.006	0.000	-0.031 – 0.039	0.729	0.033	0.005	-0.02 - 0.07	0.234
	Model 1	0.019	0.000	-0.044 – 0.051	0.811	0.058	0.021	-0.02 - 0.07	0.261
	Model 2	0.107	0.011	-0.042 – 0.053	0.745	0.076	0.006	-0.02 - 0.07	0.323

Model 0: unadjusted model; **Model 1:** adjusted for offspring's education; **Model 2:** adjusted for offspring's education and smoking history. * p<0.05 indicates statistical significance; birth weight transformed to z-score; FEV1, FVC and FEV1/FVC-ratio transformed to z-score.

Supplementary Table 4. Birth weight for prediction of lung function accounting for MOS siblings.

		Estimate	CI 95%	p-value
FEV1 (z-score)	Model 0	0.019	-0.02 - 0.06	0.329
	Model 1	0.022	-0.02 - 0.06	0.266
	Model 2	0.022	-0.02 - 0.06	0.276
FVC (z-score)	Model 0	0.01	-0.03 - 0.05	0.580
	Model 1	0.011	-0.03 - 0.05	0.562
	Model 2	0.012	-0.03 - 0.05	0.556
FEV1/FVC (z-score)	Model 0	0.002	-0.04 - 0.04	0.904
	Model 1	0.006	-0.03 - 0.05	0.753
	Model 2	0.006	-0.04 - 0.05	0.780

Model 0: unadjusted model; **Model 1:** adjusted for offspring's education; **Model 2:** adjusted for offspring's education and smoking history; * p<0.05 indicates statistical significance; birth weight transformed to z-score; FEV1, FVC and FEV1/FVC-ratio transformed to z-score.