SUPPLEMENTARY DATA

Supplementary Table 1. Age-standardized maternal, paternal and offspring characteristics according to maternal smoking during pregnancy subcategory in participants of the Nurses' Health Study II cohort.

	Maternal cigarette smoking during pregnancy			
	No maternal smoking during pregnancy (N = 25,518)	Quit smoking during first trimester of pregnancy (N = 1,137)	Continued smoking during pregnancy <15 cigarettes/day (N = 4,405)	Continued smoking during pregnancy >=15 cigarettes/day (N = 2,736)
Maternal characteristics				
Age at daughter's birth (years)	26.4 (5.1)	25.4 (4.5)	26.2 (4.7)	25.8 (4.6)
Pre-pregnancy body mass index (kg/m^2)	21.4 (2.7)	20.9 (2.4)	20.9 (2.5)	21.0 (2.7)
Weight gain during pregnancy < 9.1 kg (%)	35	28	37	35
Attended college (%)	35	43	41	38
Professional occupation (%)	3	4	3	3
History of diabetes (%)	11	9	9	11
Paternal characteristics				
Age at daughter's birth (years)	29.2 (5.7)	28.1 (5.3)	29.1 (5.4)	28.9 (5.3)
Body mass index (kg/m^2)	23.6 (2.8)	23.5 (2.9)	23.6 (2.7)	23.5 (2.8)
Attended college (%)	41	50	49	46
Professional occupation (%)	30	34	33	34
Smoked during pregnancy (%)	50	75	79	80
History of Diabetes (%)	16	15	16	15
Family owned house at daughter's birth (%)	49	38	44	43
Pregnancy and childhood characteristics				
Gestational age at birth (weeks)	39.4 (2.3)	39.5 (2.4)	39.3 (2.4)	39.2 (2.5)
Birth weight (g)	3,335 (503)	3,256 (512)	3,159 (510)	3,116 (517)
Ethnicity white (%)	96	96	97	98
Breastfed in infancy (%)	56	46	43	44
Body mass index at age 18 (kg/m²)	21.0 (3.1)	21.1 (3.1)	21.3 (3.2)	21.6 (3.5)
Adulthood characteristics				
Age (years)[a]	34.4 (4.7)	33.8 (4.5)	34.1 (4.5)	33.3 (4.4)
Height (cm)	165 (7)	165 (7)	165 (7)	164 (6)
Body mass index (kg/m²)	23.6 (4.7)	23.6 (4.7)	23.8 (4.7)	24.2 (5.0)

Current smoking behaviour				
- Never (%)	71	62	61	62
- Past (%)	20	25	25	24
- Current <15 cigarettes/day (%)	4	6	6	5
- Current =>15 cigarettes/day (%)	5	7	8	10
Pretax household income >75,000 dollar (%)	55	61	58	60
Husband attended college (%)	81	83	84	83
Alcohol intake (g/day)	2.9 (5.7)	3.6 (5.4)	3.8 (6.8)	3.7 (7.0)
Total energy intake (kcal/day)	1,808 (539)	1,786 (509)	1,787(537)	1,767(528)
Physical activity (MET-hrs/wk)[b]	24.0 (34.0)	24.6 (32.6)	25.0 (34.6)	25.8 (38.5)

Values are means (SD) unless indicated otherwise and are standardized to the age distribution of the study population.

[a]Mothers with information on smoking duration and number of cigarettes smoked available

[b]Value is not age adjusted

[c]Metabolic equivalents (MET) hours per week from recreational and leisure-time activities

SUPPLEMENTARY DATA

Supplementary Table 2. Mediation by birth weight for the associations of maternal and paternal cigarette smoking during pregnancy in different periods of pregnancy with the risk of type 2 diabetes in participants of the Nurses' Health Study II cohort during 20 years of follow-up (1989 – 2009).

	Explained proportion of effect estimates (95% Confidence Interval)	P-value
Maternal smoking		
Non-smoker	Reference	
Quit smoking in 1st trimester	10.8% (-0.7%, 22.3%)	0.07
Continued smoking <15 cigarettes	26.9% (-11.2%, 65.0%)	0.17
Continued smoking ≥ 15 cigarettes	43.0% (-35.1%, 121.1%)	0.28
Paternal smoking		
Non-smoker	Reference	
<15 cigarettes	7.2% (-4.0%, 18.4%)	0.21
=> 15 cigarettes	5.5% (-1.9%, 12.8%)	0.14

Proportion of the associations of parental smoking during pregnancy and adult risk of type 2 diabetes (as presented in Table 2) explained by birth weight was explored by using a SAS macro that calculates the explained proportion by each intermediate variable (Mediate SAS; Harvard School of Public Health; available at http://www.hsph.harvard.edu/faculty/donna-spiegelman/ software/mediate) (25). This analysis was performed for both statistically significant and non-significant effect estimates and gives for birth weight, as mediating factor, the explaining percentage and 95% Confidence Interval.

Supplementary Table 3. Mediation by adult body mass index for the associations of maternal and paternal cigarette smoking during pregnancy in different periods of pregnancy with the risk of type 2 diabetes in participants of the Nurses' Health Study II cohort during 20 years of follow-up (1989 – 2009).

	Explained proportion of effect estimates (95% Confidence Interval)	P-value
Maternal smoking		
Non-smoker	Reference	
Quit smoking in 1st trimester	-1.6% (-30.9%, 27.6%)	0.91
Continued smoking <15 cigarettes	37.4% (-29.0%, 103.8%)	0.27
Continued smoking ≥ 15 cigarettes	59.4% (-58.9%, 177.7%)	0.33
Paternal smoking		
Non-smoker	Reference	
<15 cigarettes	30.4% (-18.1%, 78.9%)	0.22
=> 15 cigarettes	52.9% (5.4%, 100.5%)	0.03

Proportion of the associations of parental smoking during pregnancy and adult risk of type 2 diabetes (as presented in Table 2) explained by adult body mass index was explored by using a SAS macro that calculates the explained proportion by each intermediate variable (Mediate SAS; Harvard School of Public Health; available at http://www.hsph.harvard.edu/faculty/donna-spiegelman/ software/mediate) (25). This analysis was performed for both statistically significant and non-significant effect estimates and gives for adult body mass index, as mediating factor, the explaining percentage and 95% Confidence Interval.