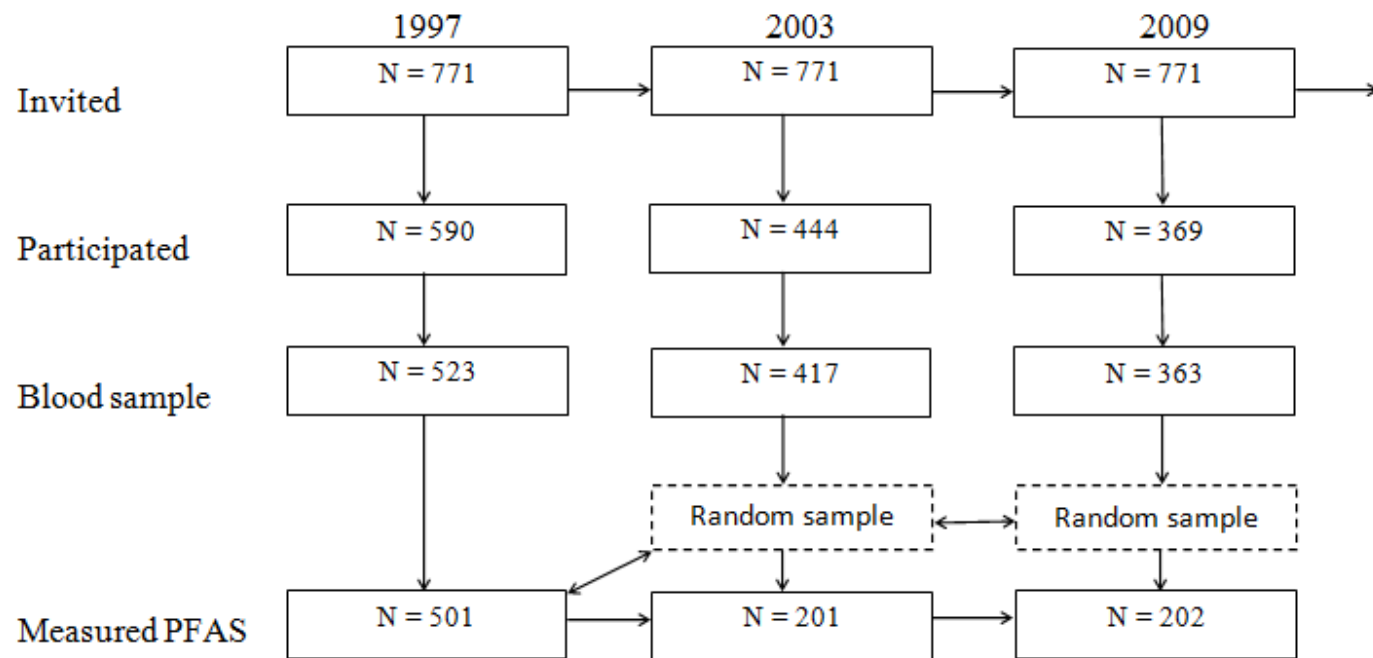


SUPPLEMENTARY DATA

Supplementary Figure S1. Flowchart: the European Youth Heart Study (EYHS) through childhood, adolescence and young adulthood.



SUPPLEMENTARY DATA

Supplementary Table S1. Matrix of potential co-variables related to PFAS exposure in childhood, adolescence and young adulthood.

Socio-economic status (1997)	N=	1997		N=	2003		N=	2009	
		PFOS	PFOA		PFOS	PFOA		PFOS	PFOA
Ethnicity (white/other)	465/30	+ (white)	+ (white)	192/8	+ (white)	+ (white)	193/8	+ (white)	-
Maternal education level (low/high)	347/120	-	-	129/62	-	-	129/62	-	-
Paternal education level (low/high)	314/134	-	-	123/64	+ (low)	-	64/123	-	-
Maternal income level (low/high)	147/335	+ (high)	+ (high)	39/154	-	+ (high)	95/106	-	-
Paternal income level (low/high)	224/239	-	-	81/106	-	-	168/33	-	-
Maternal parity (1 child/> 1 child)	255/34	+ (low)	+ (low)	161/24	+ (low)	+ (low)	161/24	-	-
Other potential co-variables	N=	1997		N=	2003		N=	2009	
		PFOS	PFOA		PFOS	PFOA		PFOS	PFOA
Sex (male/female)	235/264	+ (male)	+ (male)	91/109	-	-	92/109	+ (male)	-
Breastfeeding									
- (0) No	63	-	-	20	-	-	20	-	-
- (1) <6 mo.	285	-	-	118	-	-	119	-	(> 0)*
- (2) ≥ 6 mo.	140	-	-	61	(< 1)*	-	61	-	-
Birthweight									
- (0) <2500	26	-	-	4	-	-	4	-	-
- (1) 2500-4000	408	-	-	163	-	-	164	(< 0)*	-
- (2) ≥4000)	55	-	-	30	-	-	30	(< 0)	-
Maternal BMI (normal ≤ 25/high > 25)	348/136	-	-	140/55	-	-	140/55	-	-
Paternal BMI (normal ≤ 25/high > 25)	247/224	-	-	102/92	-	-	101/93	-	-

*Borderline p-value (0.06). + Significant association /- non-significant association. Parenthesis () indicates the group with the highest concentration of PFAS.

Parental education level divided by low (*primary/secondary school, basic, vocational or short further education*) and high (*medium or long further education*)

Parental income level divided by low (<50th percentile) and high (≥50th percentile)

SUPPLEMENTARY DATA

Supplementary Table S2. Six- and twelve-years tracking/stability of PFOS and PFOA.

	Years	PFOS	PFOA
Correlation*	1997 – 2003	0.61	0.50
Correlation*	2003 - 2009	0.69	0.44
Correlation*	1997 – 2009	0.43	0.20
ICC (unadjusted)	1997 – 2009	0.62	0.18
ICC*	1997 – 2009	0.61	0.20
ICC**	1997 – 2009	0.43	0.07

*Adjusted for sex and age

**Further adjusted ethnicity, maternal income and maternal parity

Supplementary Table S3. The predictability of stratified PFOS exposure over six and twelve years follow-up.

	1997 (9-yr) to 2003 (15-yr)			2003 (15-yr) to 2009 (21-yr)			1997 (9-yr) to 2009 (21-yr)		
	β	Std. Err.	P=	β	Std. Err.	P=	β	Std. Err.	P=
Sex									
- Male	0.63	0.05	<0.01*	0.79	0.04	<0.01*	0.54	0.03	<0.01*
- Female	0.60	0.05	<0.01*	0.71	0.03	<0.01*	0.38	0.03	<0.01*
Ethnicity									
- White	0.59	0.04	<0.01*	0.68	0.03	<0.01*	0.41	0.02	<0.01*
- Other	0.71	0.18	0.11	0.86	0.13	0.04*	0.73	0.08	0.10
Maternal income level									
- Low	0.57	0.11	<0.01*	0.71	0.06	<0.01*	0.39	0.06	0.01*
- High	0.63	0.04	<0.01*	0.72	0.03	<0.01*	0.47	0.02	<0.01*
Maternal parity									
- 1 child	0.57	0.04	<0.01*	0.70	0.03	<0.01*	0.40	0.03	<0.01*
- > 1 child	0.67	0.07	<0.01*	0.66	0.11	<0.01*	0.45	0.05	0.03*
Overweight									
- No	0.64	0.04	<0.01*	0.70	0.03	<0.01*	0.46	0.02	<0.01*
- Yes	0.41	0.10	0.06	0.67	0.07	<0.01*	0.33	0.05	0.12

Adjusted for sex (except when stratified by sex) and baseline age.

SUPPLEMENTARY DATA

Supplementary Table S4. The predictability of stratified PFOA exposure over six and twelve years follow-up.

	1997 (9-yr) to 2003 (15-yr)			2003 (15-yr) to 2009 (21-yr)			1997 (9-yr) to 2009 (21-yr)		
Sex	β	Std. Err.	P=	β	Std. Err.	P=	β	Std. Err.	P=
- Male	0.59	0.04	<0.01*	0.60	0.07	<0.01*	0.39	0.04	<0.01*
- Female	0.42	0.04	<0.01*	0.37	0.13	<0.01*	0.11	0.07	0.24
Ethnicity									
- White	0.48	0.03	<0.01*	0.43	0.08	<0.01*	0.18	0.05	0.01*
- Other	0.45	0.07	0.30	0.84	0.47	0.08	0.43	0.11	0.38
Maternal income level									
- Low	0.58	0.05	<0.01*	0.56	0.20	<0.01*	0.44	0.08	0.01*
- High	0.47	0.04	<0.01*	0.42	0.09	<0.01*	0.17	0.05	0.04*
Maternal parity									
- 1 child	0.47	0.04	<0.01*	0.45	0.09	<0.01*	0.21	0.05	0.01*
- > 1 child	0.55	0.07	0.01*	0.54	0.25	0.01*	0.24	0.11	0.29
Overweight									
- No	0.52	0.03	<0.01*	0.45	0.08	<0.01*	0.18	0.04	0.02*
- Yes	0.17	0.10	0.45	0.31	0.36	0.14	0.42	0.16	0.05*

Adjusted for sex (except when stratified by sex) and baseline age.

SUPPLEMENTARY DATA

Supplementary Table S5. Associations between indicators of adiposity and co-variates related to PFAS exposure.

BMI						
	N=	1997	N=	2003	N=	2009
Ethnicity (white/other)	539/42	0.76; -0.01, 1.53; p=0.05*	404/34	-1.13; -2.13, -0.09; p=0.03*	316/20	-0.68; -2.56, 1.20; p=0.48
Maternal income level (low/high)	175/390	0.00; -0.44, 0.44; p=0.99	101/268	0.17; -0.52, 0.86; p=0.63	67/206	1.24; 0.10, 2.38; p=0.03*
Maternal parity (1 child/> 1 child)	298/40	-0.15; -0.90, 0.59, p=0.68	298/40	-0.37; -1.36, 0.62; p=0.46	187/27	-0.60; -2.30, 1.11; p= 0.49
Sum of four skinfolds						
	N=	1997	N=	2003	N=	2009
Ethnicity (white/other)	524/40	5.9; 0.11, 11.71; p=0.05*	404/34	-8.06; -15.41, -0.72; p=0.03*	314/20	3.52; -9.93, 16.97; p=0.61
Maternal income level (low/high)	169/379	-1.59; -4.85, 1.67; p=0.34	101/268	-0.66; -5.54, 4.22; p=0.79	67/224	1.66; -6.48, 9.79; p=0.69
Maternal parity (1 child/> 1 child)	292/38	-0.8; -5.95, 5.79; p=0.98	298/40	-1.53; -8.64, 5.57; p=0.67	186/27	-2.61; -14.48, 9.26; p=0.67

No associations between waist circumference and co-variates related to PFAS exposure (p>0.05).