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Supplemental Material

Associations of Prenatal Per- and Polyfluoroalkyl Substance (PFAS) Exposures with Offspring Adiposity and Body Composition at 16–20 Years of Age: Project Viva

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Table of Contents

Table S1. Akaike Information Criterion (AIC) for the multivariable-adjusted regression models that estimate the associations of maternal individual PFAS with child BMI in late adolescence ($n = 545$).

Table S2. Distributions of log₂-transformed prenatal PFAS levels for Project Viva participants included in this analysis ($n = 545$).

Table S3. Characteristics of Project Viva mothers and children included in the main analysis ($n = 545$) vs. excluded ($n = 1583$).

Table S4. Prenatal PFAS levels by select maternal and child characteristics ($n = 545$).

Table S5. Distributions and sample sizes of adiposity and body composition measures in late adolescence, overall and stratified by child sex ($n = 439$ to 545).

Table S6. Multivariable-adjusted overall effects (estimates and 95% credible intervals) of prenatal PFAS mixtures estimated by the differences in probit of the probability of obesity, BMI, and DXA measures in late adolescence when all PFAS are in their 10th to 90th percentile (with an interval of 10 percentile) as compared to when they are in their 50th percentile estimated using Bayesian kernel machine regression ($n = 545$ for obesity and BMI; $n = 439$ for DXA measures).

Table S7. Posterior inclusion probabilities for prenatal PFAS in the multivariable-adjusted Bayesian kernel machine regression models with component-wise variable selection ($n = 545$ for obesity and BMI; $n = 439$ for DXA measures).

Table S8. Multivariable-adjusted associations (estimates and 95% confidence intervals) of prenatal PFAS mixtures with obesity risk, BMI, and DXA measures in late adolescence estimated using quantile g-computation models (n = 439 to 545). Estimates show the differences in continuous values of BMI and DXA measures or relative risks of obesity (yes vs. no) per each quartile increment of the PFAS mixture.

Table S9. Multivariable-adjusted associations (estimates and 95% confidence intervals) of prenatal PFAS levels with adiposity and body composition measures in late adolescence, overall and stratified by child sex (n = 439 to 545). Estimates show the differences in continuous values of adiposity and body composition measures or relative risks of obesity (yes vs. no) per doubling of PFAS levels.

Table S10. Associations (estimates and 95% confidence intervals) of prenatal PFAS levels with adiposity and body composition measures in late adolescence after: 1) removing maternal pre-pregnancy body mass index from the multivariable-adjusted models; 2) additionally adjusted for first-trimester albumin; 3) additionally adjusted for first-trimester DASH diet scores; and 4) additionally adjusted for urbanicity scores (n = 522 to 545; sample size varies by models due to missing covariates). Estimates show the differences in continuous values of adiposity and body composition measures or relative risks of obesity (yes vs. no) per doubling of prenatal PFAS levels.

Table S11. Associations (estimates and 95% confidence intervals) of prenatal PFAS levels with adiposity and body composition measures in late adolescence after using the stabilized inverse probability weighting method to account for potential selection bias (n = 545).

Figure S1. Participant selection flowchart (n = 545).

Figure S2. Distributions of PFAS (ng/mL) measured in maternal plasma samples collected in the first trimester during pregnancy (n = 545). PFAS concentrations below the LOD (provided in Table 1) were imputed using $LOD/\sqrt{2}$.

Figure S3. Directed Acyclic Graphs (DAG) showing the hypothesized relationships between all variables in this analysis. DAGs were created on dagitty.net.

Figure S4. Spearman correlation matrix for adiposity and body composition measures in late adolescence. Sample sizes for each measure are provided in Table S5. Correlation between each pair of adiposity measures is computed using all complete pairs of observations on these measures. Color intensity is proportional to the correlation coefficients.

Figure S5. Multivariable-adjusted associations between individual prenatal PFAS and BMI (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 545$). Panel A shows the differences and 95% confidence intervals of BMI per doubling of PFAS levels (estimates are provided in Table 3 [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on BMI in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in Table S8). Panel C shows the estimates and 95% credible intervals of PFAS with BMI when all other PFAS are fixed at their 50th percentile.

Figure S6. Overall effects of prenatal PFAS mixtures estimated by the differences in (A) DXA percentage fat; (B) DXA fat mass index (kg/m^2); (C) DXA trunk fat mass index (kg/m^2); and (D) DXA lean mass index (kg/m^2) in late adolescence when all PFAS are in their 10th to 90th percentile (with an interval of 10 percentile) as compared to when they are in their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).

Figure S7. Multivariable-adjusted associations between individual prenatal PFAS and DXA percentage fat in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA percentage fat per doubling of PFAS levels (estimates are provided in Table 3 [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA percentage fat in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in Table S8). Panel C shows the estimates and 95% credible intervals of PFAS with DXA percentage fat when all other PFAS are fixed at their 50th percentile.

Figure S8. Multivariable-adjusted associations between individual prenatal PFAS and DXA fat mass index (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA fat mass index per doubling of PFAS levels (estimates are provided in Table 3 [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA fat mass index in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in Table S8). Panel C shows the estimates and 95% credible intervals of PFAS with DXA fat mass index when all other PFAS are fixed at their 50th percentile.

Figure S9. Multivariable-adjusted associations between individual prenatal PFAS and DXA trunk fat mass index (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA trunk fat mass index per doubling of PFAS levels (estimates are provided in Table 3 [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA trunk fat mass index in the positive or negative direction (Positive and negative weights respectively add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; estimates are provided in Table S8). Panel C shows the estimates and 95% credible intervals of PFAS with DXA trunk fat mass index when all other PFAS are fixed at their 50th percentile.

Figure S10. Multivariable-adjusted associations between individual prenatal PFAS and DXA lean mass index (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA lean mass index per doubling of PFAS levels (estimates are provided in Table 3 [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA lean mass index in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in Table S8). Panel C shows the estimates and 95% credible intervals of PFAS with DXA lean mass index when all other PFAS are fixed at their 50th percentile.

Figure S11. Associations between prenatal PFAS 1 concentrations (columns) and BMI (kg/m^2) in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 545$).

Figure S12. Associations between prenatal PFAS 1 concentrations (columns) and DXA percentage fat in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).

Figure S13. Associations between prenatal PFAS 1 concentrations (columns) and DXA fat mass index (kg/m^2) in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).

Figure S14. Associations between prenatal PFAS 1 concentrations (columns) and DXA trunk fat mass index (kg/m^2) in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).

Figure S15. Associations between prenatal PFAS 1 concentrations (columns) and DXA lean mass index (kg/m^2) in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).

Figure S16. Fractional polynomial prediction plots showing the association between age and body mass index across childhood and adolescence by prenatal PFOS, EtFOSAA, and MeFOSAA levels stratified by child sex (male [$n = 616$] vs. female [$n = 540$]). “Higher” was defined as PFAS levels above the population median, and “lower” was defined as PFAS levels below the population median. Median levels were 25.70 ng/mL for PFOS, 1.20 ng/mL for EtFOSAA, and 1.90 ng/mL for MeFOSAA.

Additional File- Excel Document

Table S1. Akaike Information Criterion (AIC) for the multivariable-adjusted¹ regression models that estimate the associations of maternal individual PFAS with child BMI in late adolescence ($n = 545$).

Models	PFOS	PFOA	PFHxS	PFNA	EtFOSAA	MeFOSAA
Linear	3262.850	3266.468	3266.395	3265.521	3265.090	3266.411
Log2-transformed	3260.365	3265.403	3264.681	3263.883	3262.632	3265.676
Quadratic	3261.853	3264.114	3265.338	3263.570	3265.647	3268.370

Abbreviations: AIC indicates Akaike Information Criterion; PFAS, per- and polyfluoroalkyl substances; BMI, body mass index; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido)acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido)acetate

1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.

Table S2. Distributions of log₂-transformed prenatal PFAS levels for Project Viva participants included in this analysis (*n* = 545).

PFAS (ng/mL)	Minimum	10 th percentile	25 th percentile	50 th percentile	75 th percentile	90 th percentile	Maximum
PFOS	2.41	3.75	4.17	4.63	5.08	5.56	7.07
PFOA	-0.32	1.54	1.96	2.43	2.93	3.32	5.62
PFHxS	-3.82	0.14	0.58	1.20	1.85	2.51	5.43
PFNA	-3.82	-1.74	-1.00	-0.51	-0.15	0.26	1.77
EtFOSAA	-3.82	-1.00	-0.51	0.14	0.85	1.58	4.28
MeFOSAA	-3.32	-0.32	0.26	0.93	1.54	2.07	4.89

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

Note: Samples were collected between April 1999 and July 2002. We imputed PFAS concentrations below the limit of detection with the limit of detection $\sqrt{2}$. Distributions of PFAS levels in this table are after imputation and after log₂-transformation. Distributions of PFAS levels before log₂-transformation are provided in **Table 1**. Histograms that show the distributions of these PFAS before and after log₂-transformation are provided in **Figure S2**.

Table S3. Characteristics of Project Viva mothers and children included in the main analysis ($n = 545$) vs. excluded ($n = 1583$)

Variables, n (%) for categorical variables ¹ and median (IQR) continuous variables	Excluded	Included
N	1583	545
Maternal Characteristics		
Age at enrollment (years)	32.1 (28.8, 35.1)	32.7 (29.7, 35.9)
Race and ethnicity		
Non-Hispanic white	1020 (65%)	379 (70%)
Non-Hispanic Black	273 (18%)	75 (14%)
Others	265 (17%)	91 (17%)
Missing	25	0
Pre-pregnancy BMI category		
Normal or underweight (<25 kg/m ²)	976 (62%)	343 (63%)
Overweight (25 to <30 kg/m ²)	332 (21%)	128 (23%)
Obesity (≥ 30 kg/m ²)	258 (16%)	74 (14%)
Missing	17	0
College graduate		
No	600 (38%)	144 (26%)
Yes	959 (62%)	401 (74%)
Missing	24	0
Married or cohabiting		
No	134 (9%)	46 (8%)
Yes	1424 (91%)	499 (92%)
Missing	25	0
Household income >\$70,000/year		
No	550 (40%)	178 (35%)
Yes	822 (60%)	324 (65%)
Missing	211	43
Pregnancy smoking status		
Never smoker	1051 (67%)	392 (72%)
Former smoker	300 (19%)	98 (18%)
Smoked during pregnancy	211 (14%)	55 (10%)
Missing	21	0
Nulliparous		
No	833 (53%)	278 (51%)
Yes	750 (47%)	267 (49%)
First-trimester albumin (g/dL)	6.0 (5.1, 6.9)	6.0 (5.1, 6.9)
Missing	517	20

First-trimester DASH diet score	24.0 (20.0, 27.0)	24.0 (21.0, 28.0)
Missing	205	23
Urbanicity score ²	911.2 (621.8, 1057.1)	938.2 (683.2, 1056.3)
Missing	23	8
Child Characteristics		
Sex		
Female	759 (48%)	273 (50%)
Male	824 (52%)	272 (50%)
Birth weight (grams)	3480.5 (3124.0, 3798.0)	3543.0 (3203.0, 3883.0)
Missing	1	0
Gestational age (weeks)	39.7 (38.7, 40.6)	39.9 (38.9, 40.6)

Abbreviations: IQR indicates interquartile range; BMI, body mass index; and DASH, Dietary Approaches to Stop Hypertension.

1. Percentages for categorical variables may not add up to 100% due to rounding. For categorical variables with missing values, missing values were not included in the denominators when deriving percentages for known values.
2. Urbanicity score is presented as a continuous variable in this table, rather than as a categorical variable (in quintiles) as in **Table 2**. This is because the quintiles in **Table 2** were created using participants included in this analysis ($n = 545$), but here, we compared the urbanicity score between participants included *vs.* excluded.

Table S4. Prenatal PFAS levels by select maternal and child characteristics (*n* = 545).

Characteristics	PFAS (ng/mL): Median (IQR)					
	PFOS	PFOA	PFHxS	PFNA	EtFOSAA	MeFOSAA
Maternal Characteristics						
Age at enrollment (years)						
< 30 years	19.40 (25.90 to 34.60)	4.50 (5.60 to 7.70)	1.60 (2.50 to 3.90)	0.50 (0.60 to 0.80)	0.70 (1.20 to 1.90)	1.30 (2.00 to 3.20)
≥ 30 years	17.50 (24.00 to 33.10)	3.70 (5.30 to 7.60)	1.50 (2.25 to 3.50)	0.50 (0.70 to 1.00)	0.70 (1.10 to 1.80)	1.20 (1.80 to 2.80)
Race and ethnicity						
Non-Hispanic white	17.70 (24.10 to 33.50)	4.10 (5.70 to 7.70)	1.60 (2.40 to 3.80)	0.50 (0.70 to 0.90)	0.70 (1.10 to 1.80)	1.20 (1.80 to 2.80)
Non-Hispanic Black	21.00 (27.60 to 35.30)	3.30 (4.70 to 7.10)	1.20 (2.00 to 2.90)	0.40 (0.60 to 0.90)	1.00 (1.40 to 2.20)	1.50 (2.10 to 3.40)
Others	17.80 (24.60 to 32.20)	3.70 (5.30 to 6.80)	1.40 (2.10 to 3.10)	0.50 (0.70 to 1.00)	0.60 (0.90 to 1.50)	1.10 (1.70 to 2.50)
Pre-pregnancy BMI category						
Normal or underweight (<25 kg/m ²)	17.60 (24.00 to 32.40)	3.80 (5.30 to 7.50)	1.50 (2.30 to 3.60)	0.50 (0.70 to 1.00)	0.70 (1.00 to 1.70)	1.20 (1.80 to 2.90)
Overweight (25 to <30 kg/m ²)	17.85 (24.60 to 34.20)	3.80 (5.60 to 7.80)	1.60 (2.40 to 3.85)	0.50 (0.60 to 0.90)	0.70 (1.10 to 1.95)	1.30 (1.85 to 3.20)
Obesity (≥ 30 kg/m ²)	21.20 (26.30 to 39.20)	4.20 (5.80 to 8.00)	1.50 (2.00 to 3.30)	0.40 (0.65 to 0.90)	0.80 (1.40 to 2.10)	1.40 (2.20 to 2.70)
College graduate						
No	19.75 (25.85 to 34.75)	4.10 (5.50 to 8.05)	1.60 (2.30 to 3.25)	0.50 (0.60 to 0.80)	0.80 (1.30 to 2.30)	1.45 (2.10 to 3.00)
Yes	17.50 (24.20 to 32.90)	3.90 (5.40 to 7.50)	1.50 (2.30 to 3.70)	0.50 (0.70 to 1.00)	0.70 (1.00 to 1.70)	1.20 (1.70 to 2.80)
Married or cohabiting						
No	18.20 (25.95 to 34.30)	4.00 (4.70 to 6.80)	1.50 (2.05 to 3.50)	0.40 (0.60 to 0.80)	0.60 (1.10 to 1.90)	1.20 (1.85 to 2.80)
Yes	17.90 (24.60 to 33.80)	3.90 (5.50 to 7.60)	1.50 (2.30 to 3.60)	0.50 (0.70 to 0.90)	0.70 (1.10 to 1.80)	1.20 (1.90 to 2.90)

Pregnancy smoking status						
Never smoker	17.80 (24.70 to 33.65)	3.70 (5.30 to 7.45)	1.50 (2.20 to 3.45)	0.50 (0.70 to 0.90)	0.70 (1.00 to 1.80)	1.20 (1.80 to 2.80)
Former smoker	18.80 (24.30 to 33.10)	4.30 (5.70 to 8.00)	1.50 (2.55 to 4.10)	0.50 (0.70 to 0.90)	0.80 (1.30 to 1.80)	1.20 (1.90 to 3.20)
Smoked during pregnancy	17.90 (24.60 to 34.30)	4.40 (5.70 to 8.00)	1.60 (2.40 to 4.70)	0.40 (0.60 to 0.80)	0.80 (1.20 to 2.00)	1.30 (1.90 to 3.10)
Nulliparous						
No	16.30 (22.10 to 30.70)	3.20 (4.70 to 6.40)	1.40 (2.00 to 3.10)	0.40 (0.60 to 0.80)	0.70 (1.20 to 1.80)	1.30 (2.00 to 3.10)
Yes	20.10 (27.20 to 36.40)	4.80 (6.30 to 8.60)	1.80 (2.70 to 4.20)	0.50 (0.70 to 1.00)	0.60 (1.00 to 1.70)	1.10 (1.70 to 2.70)
Child Characteristics						
Sex						
Female	18.70 (25.40 to 32.90)	4.00 (5.40 to 7.80)	1.40 (2.20 to 3.50)	0.50 (0.70 to 1.00)	0.70 (1.10 to 1.90)	1.20 (1.80 to 3.00)
Male	17.70 (23.80 to 34.65)	3.90 (5.40 to 7.30)	1.60 (2.40 to 3.70)	0.50 (0.60 to 0.90)	0.70 (1.10 to 1.70)	1.20 (1.90 to 2.80)
BMI category ¹ at the Mid-Teen Visit						
Normal or underweight	17.00 (23.30 to 32.90)	3.70 (5.30 to 7.50)	1.50 (2.30 to 3.50)	0.50 (0.70 to 0.90)	0.70 (1.00 to 1.70)	1.20 (1.70 to 3.00)
Overweight	20.50 (26.40 to 32.60)	4.30 (5.50 to 7.80)	1.80 (2.70 to 3.70)	0.50 (0.60 to 0.80)	0.80 (1.20 to 1.80)	1.50 (2.00 to 2.80)
Obesity	21.70 (29.90 to 37.20)	4.60 (5.70 to 7.60)	1.80 (2.40 to 3.60)	0.50 (0.70 to 1.00)	0.80 (1.40 to 2.20)	1.60 (2.10 to 2.80)

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; IQR indicates interquartile range; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and BMI, body mass index.

1. Obesity was defined as BMI \geq 95th percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts. Overweight was defined as BMI \geq 85th and $<$ 95th percentile. Normal or underweight was defined as BMI $<$ 85th percentile.

Table S5. Distributions and sample sizes of adiposity and body composition measures in late adolescence, overall and stratified by child sex ($n = 439$ to 545).

Adiposity and body composition measures (units)	Overall		Male		Female	
	N	Median (IQR)	N	Median (IQR)	N	Median (IQR)
Overall adiposity						
BMI (kg/m ²)	545	22.74 (20.47 to 25.67)	272	22.76 (20.62 to 25.43)	273	22.69 (20.33 to 25.99)
BMI z-score	545	0.41 (-0.30 to 1.06)	272	0.34 (-0.34 to 1.06)	273	0.44 (-0.26 to 1.06)
Sum of subscapular and triceps skinfold thicknesses (mm)	534	29.00 (20.20 to 40.40)	268	21.50 (17.10 to 32.50)	266	33.50 (27.00 to 45.20)
BIA percentage fat	544	20.50 (12.00 to 28.60)	272	12.25 (8.90 to 18.15)	272	27.40 (22.30 to 33.15)
DXA percentage fat	439	28.31 (20.28 to 33.70)	211	20.01 (16.73 to 27.29)	228	32.12 (28.47 to 37.50)
BIA fat mass index (kg/m ²)	543	4.55 (2.56 to 6.88)	272	2.75 (1.79 to 4.53)	271	6.02 (4.56 to 8.52)
DXA fat mass index (kg/m ²)	439	6.33 (4.42 to 8.73)	211	4.49 (3.56 to 6.98)	228	7.39 (6.07 to 9.85)
Central adiposity						
Waist circumference (cm)	544	78.50 (72.95 to 87.15)	272	79.70 (74.50 to 89.05)	272	76.30 (71.40 to 84.85)
Waist-to-hip circumference ratio (×100)	544	81.19 (77.85 to 85.54)	272	82.19 (79.18 to 87.42)	272	80.09 (76.47 to 84.19)
Subscapular-to-triceps skinfold thickness ratio (×100)	534	85.02 (69.23 to 102.56)	268	95.99 (78.93 to 115.33)	266	75.57 (62.90 to 89.80)
DXA trunk fat mass index (kg/m ²)	439	2.42 (1.63 to 3.73)	211	1.73 (1.35 to 3.01)	228	2.83 (2.19 to 4.16)
Lean mass						
BIA lean mass index (kg/m ²)	543	18.18 (16.61 to 20.19)	272	19.90 (18.69 to 21.12)	271	16.72 (15.67 to 17.70)
DXA lean mass index (kg/m ²)	439	16.89 (15.26 to 18.77)	211	18.27 (16.78 to 20.00)	228	15.76 (14.65 to 17.32)

Abbreviations: IQR indicates interquartile range; BMI; body mass index; BIA, bioelectrical impedance analysis; and DXA, dual-energy X-ray absorptiometry.

Table S6. Multivariable-adjusted¹ overall effects (estimates and 95% credible intervals) of prenatal PFAS mixtures estimated by the differences in probit of the probability of obesity, BMI, and DXA measures in late adolescence when all PFAS are in their 10th to 90th percentile (with an interval of 10 percentile) as compared to when they are in their 50th percentile estimated using Bayesian kernel machine regression ($n = 545$ for obesity and BMI; $n = 439$ for DXA measures).

Percentile	Adiposity and body composition measures in late adolescence					
	Obesity ²	BMI (kg/m ²)	DXA percentage fat	DXA fat mass index (kg/m ²)	DXA trunk fat mass index (kg/m ²)	DXA lean mass index (kg/m ²)
10 th	-0.47 (-0.78, -0.16)	-0.84 (-1.61, -0.08)	-0.43 (-1.85, 0.98)	-0.35 (-0.96, 0.25)	-0.21 (-0.53, 0.11)	-0.35 (-0.76, 0.07)
20 th	-0.32 (-0.52, -0.12)	-0.50 (-1.01, 0.01)	-0.28 (-1.27, 0.70)	-0.23 (-0.64, 0.19)	-0.13 (-0.35, 0.09)	-0.23 (-0.51, 0.06)
30 th	-0.19 (-0.31, -0.08)	-0.31 (-0.61, -0.01)	-0.09 (-0.68, 0.49)	-0.11 (-0.35, 0.14)	-0.06 (-0.19, 0.07)	-0.15 (-0.32, 0.03)
40 th	-0.09 (-0.14, -0.03)	-0.14 (-0.29, 0.01)	-0.10 (-0.39, 0.20)	-0.06 (-0.19, 0.06)	-0.04 (-0.10, 0.03)	-0.05 (-0.13, 0.04)
50 th	Reference					
60 th	0.03 (-0.01, 0.08)	0.08 (-0.06, 0.22)	0.00 (-0.28, 0.27)	0.02 (-0.10, 0.13)	0.01 (-0.05, 0.07)	0.04 (-0.04, 0.12)
70 th	0.11 (0.01, 0.22)	0.18 (-0.12, 0.47)	0.05 (-0.49, 0.59)	0.06 (-0.16, 0.29)	0.03 (-0.09, 0.15)	0.10 (-0.07, 0.26)
80 th	0.14 (-0.02, 0.31)	0.27 (-0.20, 0.74)	0.10 (-0.81, 1.01)	0.13 (-0.26, 0.51)	0.06 (-0.14, 0.27)	0.17 (-0.11, 0.44)
90 th	0.16 (-0.13, 0.45)	0.41 (-0.37, 1.19)	0.08 (-1.30, 1.46)	0.18 (-0.42, 0.77)	0.08 (-0.23, 0.40)	0.26 (-0.16, 0.68)

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido)acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido)acetate; BMI, body mass index; and DXA, dual-energy X-ray absorptiometry.

1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.
2. Obesity was defined as BMI \geq 95th percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts (reference is BMI < 95th percentile).

Table S7. Posterior inclusion probabilities for prenatal PFAS in the multivariable-adjusted¹ Bayesian kernel machine regression models with component-wise variable selection ($n = 545$ for obesity and BMI; $n = 439$ for DXA measures).

PFAS	Adiposity and body composition measures in late adolescence					
	Obesity ²	BMI (kg/m ²)	DXA percentage fat	DXA fat mass index (kg/m ²)	DXA trunk fat mass index (kg/m ²)	DXA lean mass index (kg/m ²)
PFOS	0.702	0.336	0.057	0.124	0.135	0.055
PFOA	0.477	0.139	0.047	0.097	0.144	0.059
PFHxS	0.273	0.021	0.033	0.033	0.036	0.050
PFNA	0.537	0.042	0.038	0.064	0.084	0.013
EtFOSAA	0.286	0.024	0.046	0.078	0.089	0.007
MeFOSAA	0.310	0.018	0.013	0.020	0.023	0.053

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; BMI, body mass index; and DXA, dual-energy X-ray absorptiometry.

1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.
2. Obesity was defined as BMI \geq 95th percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts (reference is BMI < 95th percentile).

Table S8. Multivariable-adjusted¹ associations (estimates and 95% confidence intervals) of prenatal PFAS mixtures with obesity risk, BMI, and DXA measures in late adolescence estimated using quantile g-computation models ($n = 439$ to 545^2). Estimates show the differences in continuous values of BMI and DXA measures or relative risks of obesity (yes vs. no) per each quartile increment of the PFAS mixture.

Adiposity and body composition measures (units)	Overall effect estimates (95% confidence intervals)	Sum of positive coefficients	Scaled effect sizes (positive direction)	Sum of negative coefficients	Scaled effect sizes (negative direction)
Obesity ³	1.52 (1.03, 2.25)	0.765	PFOS: 0.849 PFNA: 0.151	-0.345	PFOA: 0.406 PFHxS: 0.277 MeFOSAA: 0.218 EtFOSAA: 0.099
BMI (kg/m ²)	0.52 (-0.02, 1.06)	1.020	PFOS: 0.749 EtFOSAA: 0.197 PFHxS: 0.054	-0.495	PFOA: 0.472 PFNA: 0.420 MeFOSAA: 0.108
DXA percentage fat	0.20 (-0.86, 1.27)	1.440	EtFOSAA: 0.546 PFOS: 0.313 PFNA: 0.120 PFOA: 0.021	-1.240	PFHxS: 0.746 MeFOSAA: 0.254
DXA fat mass index (kg/m ²)	0.18 (-0.26, 0.62)	0.678	PFOS: 0.603 EtFOSAA: 0.397	-0.495	PFHxS: 0.582 MeFOSAA: 0.248 PFOA: 0.092 PFNA: 0.077
DXA trunk fat mass index (kg/m ²)	0.10 (-0.13, 0.33)	0.345	PFOS: 0.639 EtFOSAA: 0.356 PFOA: 0.005	-0.247	PFHxS: 0.587 MeFOSAA: 0.272 PFNA: 0.141
DXA lean mass index (kg/m ²)	0.24 (-0.08, 0.55)	0.771	PFOS: 0.527 PFHxS: 0.360 MeFOSAA: 0.113	-0.536	PFOA: 0.494 PFNA: 0.444 EtFOSAA: 0.062

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; BMI, body mass index; and DXA, dual-energy X-ray absorptiometry.

1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.

2. $n = 545$ for obesity and BMI, and 439 for DXA percentage fat, fat mass index, trunk fat mass index, and total lean mass index.

3. Obesity was defined as BMI \geq 95th percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts (reference is BMI < 95th percentile).

Table S9. Multivariable-adjusted¹ associations (estimates and 95% confidence intervals) of prenatal PFAS levels with adiposity and body composition measures in late adolescence, overall and stratified by child sex ($n = 439$ to 545^2). Estimates show the differences in continuous values of adiposity and body composition measures or relative risks of obesity (yes vs. no) per doubling of PFAS levels.

Adiposity and body composition measures (units)	PFAS	Overall	Female	Male	P-int
Obesity					
Obesity ³	PFOS	1.59 (1.19, 2.12)	1.46 (0.88, 2.44)	1.89 (1.28, 2.79)	0.28
	PFOA	1.24 (0.98, 1.57)	1.42 (0.93, 2.16)	1.32 (0.93, 1.85)	0.95
	PFHxS	1.14 (0.93, 1.40)	1.13 (0.83, 1.53)	1.16 (0.87, 1.54)	0.81
	PFNA	1.49 (1.11, 1.99)	1.61 (0.99, 2.61)	1.66 (1.13, 2.42)	0.30
	EtFOSAA	1.16 (0.97, 1.39)	1.14 (0.91, 1.42)	1.20 (0.92, 1.57)	0.82
	MeFOSAA	1.13 (0.90, 1.42)	0.98 (0.69, 1.37)	1.42 (1.07, 1.89)	0.16
Overall adiposity					
BMI (kg/m ²)	PFOS	0.74 (0.15, 1.33)	0.62 (-0.23, 1.46)	0.85 (0.01, 1.68)	0.96
	PFOA	0.31 (-0.28, 0.90)	0.44 (-0.37, 1.25)	0.16 (-0.71, 1.03)	0.45
	PFHxS	0.25 (-0.12, 0.62)	-0.03 (-0.56, 0.50)	0.49 (-0.03, 1.01)	0.15
	PFNA	0.43 (-0.10, 0.96)	0.48 (-0.24, 1.20)	0.42 (-0.37, 1.21)	0.99
	EtFOSAA	0.38 (-0.00, 0.77)	0.68 (0.15, 1.22)	0.10 (-0.46, 0.67)	0.12
	MeFOSAA	0.20 (-0.24, 0.64)	0.08 (-0.55, 0.71)	0.36 (-0.27, 0.98)	0.59
BMI z-score	PFOS	0.13 (0.01, 0.25)	0.07 (-0.09, 0.23)	0.19 (-0.00, 0.38)	0.54
	PFOA	0.03 (-0.09, 0.15)	0.03 (-0.12, 0.19)	0.03 (-0.16, 0.23)	0.74
	PFHxS	0.05 (-0.03, 0.13)	-0.04 (-0.14, 0.06)	0.14 (0.03, 0.26)	0.02
	PFNA	0.06 (-0.05, 0.17)	0.04 (-0.09, 0.18)	0.09 (-0.09, 0.27)	0.80
	EtFOSAA	0.08 (-0.00, 0.16)	0.15 (0.05, 0.25)	0.01 (-0.12, 0.14)	0.11
	MeFOSAA	0.06 (-0.03, 0.16)	0.03 (-0.09, 0.15)	0.11 (-0.03, 0.25)	0.38
Sum of subscapular and triceps skinfold thicknesses (mm)	PFOS	1.31 (-0.59, 3.22)	1.64 (-0.86, 4.13)	0.64 (-2.00, 3.28)	0.47
	PFOA	0.51 (-1.36, 2.38)	1.59 (-0.75, 3.92)	-1.86 (-4.60, 0.88)	0.05
	PFHxS	0.12 (-1.06, 1.29)	-0.08 (-1.61, 1.45)	0.08 (-1.58, 1.74)	0.85
	PFNA	0.86 (-0.84, 2.55)	1.32 (-0.81, 3.44)	-0.37 (-2.87, 2.13)	0.29
	EtFOSAA	1.17 (-0.07, 2.41)	2.31 (0.76, 3.86)	-0.14 (-1.92, 1.65)	0.06
	MeFOSAA	0.41 (-1.00, 1.82)	0.96 (-0.86, 2.77)	0.03 (-1.95, 2.01)	0.59
BIA percentage fat	PFOS	0.72 (-0.57, 2.01)	0.47 (-0.91, 1.85)	0.50 (-0.88, 1.88)	0.75
	PFOA	0.48 (-0.79, 1.76)	0.47 (-0.84, 1.78)	-0.70 (-2.13, 0.74)	0.12
	PFHxS	0.00 (-0.80, 0.80)	-0.26 (-1.11, 0.59)	0.25 (-0.61, 1.11)	0.46
	PFNA	0.16 (-0.98, 1.31)	0.33 (-0.84, 1.50)	-0.61 (-1.91, 0.69)	0.33
	EtFOSAA	0.68 (-0.16, 1.53)	1.29 (0.42, 2.16)	0.12 (-0.81, 1.05)	0.06
	MeFOSAA	0.08 (-0.88, 1.03)	0.21 (-0.81, 1.22)	0.16 (-0.87, 1.19)	0.96

DXA percentage fat	PFOS	0.48 (-0.71, 1.66)	0.31 (-0.89, 1.50)	0.31 (-1.18, 1.80)	0.96
	PFOA	0.12 (-1.05, 1.28)	-0.03 (-1.18, 1.11)	-0.86 (-2.40, 0.69)	0.43
	PFHxS	-0.37 (-1.06, 0.32)	-0.50 (-1.20, 0.20)	-0.27 (-1.14, 0.60)	0.59
	PFNA	0.26 (-0.78, 1.29)	0.16 (-0.87, 1.19)	-0.17 (-1.51, 1.16)	0.78
	EtFOSAA	0.59 (-0.19, 1.37)	0.89 (0.14, 1.65)	0.07 (-0.95, 1.10)	0.21
	MeFOSAA	-0.07 (-0.95, 0.81)	0.11 (-0.80, 1.02)	0.12 (-0.96, 1.20)	0.99
BIA fat mass index (kg/m ²)	PFOS	0.41 (-0.06, 0.88)	0.36 (-0.27, 0.98)	0.30 (-0.24, 0.85)	0.57
	PFOA	0.25 (-0.22, 0.71)	0.28 (-0.31, 0.87)	-0.12 (-0.69, 0.45)	0.20
	PFHxS	0.08 (-0.21, 0.37)	-0.04 (-0.43, 0.35)	0.15 (-0.19, 0.49)	0.41
	PFNA	0.18 (-0.24, 0.59)	0.27 (-0.26, 0.80)	-0.07 (-0.59, 0.45)	0.52
	EtFOSAA	0.28 (-0.03, 0.59)	0.52 (0.12, 0.91)	0.06 (-0.31, 0.43)	0.06
	MeFOSAA	0.03 (-0.32, 0.38)	0.01 (-0.45, 0.47)	0.10 (-0.31, 0.50)	0.87
DXA fat mass index (kg/m ²)	PFOS	0.34 (-0.15, 0.83)	0.26 (-0.37, 0.90)	0.36 (-0.30, 1.01)	0.88
	PFOA	0.08 (-0.40, 0.56)	0.03 (-0.58, 0.64)	-0.14 (-0.83, 0.54)	0.55
	PFHxS	-0.04 (-0.33, 0.24)	-0.14 (-0.52, 0.23)	0.03 (-0.36, 0.41)	0.40
	PFNA	0.19 (-0.24, 0.62)	0.19 (-0.36, 0.73)	0.06 (-0.53, 0.65)	0.88
	EtFOSAA	0.29 (-0.04, 0.61)	0.43 (0.03, 0.84)	0.10 (-0.35, 0.56)	0.23
	MeFOSAA	0.04 (-0.33, 0.40)	0.04 (-0.44, 0.52)	0.13 (-0.35, 0.61)	0.80
Central adiposity					
Waist circumference (cm)	PFOS	1.09 (-0.40, 2.59)	0.72 (-1.33, 2.77)	1.61 (-0.57, 3.79)	0.75
	PFOA	-0.00 (-1.48, 1.48)	0.55 (-1.41, 2.51)	-0.22 (-2.50, 2.06)	0.54
	PFHxS	0.25 (-0.68, 1.18)	-0.25 (-1.53, 1.02)	0.72 (-0.64, 2.08)	0.27
	PFNA	0.04 (-1.29, 1.38)	0.40 (-1.35, 2.15)	0.05 (-2.01, 2.12)	0.97
	EtFOSAA	0.82 (-0.16, 1.80)	1.64 (0.33, 2.94)	0.04 (-1.43, 1.52)	0.07
	MeFOSAA	0.08 (-1.04, 1.20)	-0.25 (-1.78, 1.27)	0.46 (-1.17, 2.09)	0.64
Waist-to-hip circumference ratio (×100)	PFOS	0.31 (-0.46, 1.08)	0.14 (-0.98, 1.26)	0.60 (-0.43, 1.62)	0.79
	PFOA	0.03 (-0.73, 0.79)	0.55 (-0.51, 1.62)	-0.12 (-1.19, 0.94)	0.34
	PFHxS	-0.15 (-0.63, 0.33)	-0.46 (-1.15, 0.23)	0.21 (-0.43, 0.85)	0.17
	PFNA	-0.21 (-0.89, 0.48)	0.15 (-0.80, 1.11)	-0.33 (-1.29, 0.64)	0.60
	EtFOSAA	0.34 (-0.17, 0.84)	0.82 (0.11, 1.53)	-0.09 (-0.78, 0.60)	0.03
	MeFOSAA	0.23 (-0.34, 0.80)	-0.06 (-0.89, 0.77)	0.57 (-0.19, 1.33)	0.42
Subscapular-to-triceps skinfold thickness ratio (×100)	PFOS	2.71 (-0.83, 6.25)	3.68 (0.02, 7.35)	2.29 (-3.19, 7.77)	0.76
	PFOA	3.23 (-0.24, 6.70)	4.83 (1.42, 8.23)	2.63 (-3.07, 8.34)	0.53
	PFHxS	0.73 (-1.46, 2.92)	0.28 (-1.98, 2.53)	0.53 (-2.91, 3.97)	0.70
	PFNA	1.72 (-1.44, 4.88)	3.37 (0.25, 6.49)	1.16 (-4.03, 6.35)	0.62
	EtFOSAA	1.69 (-0.62, 4.00)	1.30 (-1.02, 3.63)	1.79 (-1.90, 5.48)	0.61
	MeFOSAA	-0.67 (-3.29, 1.95)	-1.06 (-3.74, 1.62)	-0.32 (-4.43, 3.79)	0.61
	PFOS	0.19 (-0.07, 0.44)	0.13 (-0.22, 0.48)	0.22 (-0.13, 0.56)	1.00
	PFOA	0.07 (-0.18, 0.32)	0.05 (-0.29, 0.38)	-0.02 (-0.38, 0.34)	0.59

DXA trunk fat mass index (kg/m ²)	PFHxS	-0.02 (-0.17, 0.13)	-0.07 (-0.28, 0.13)	0.02 (-0.18, 0.22)	0.41
	PFNA	0.12 (-0.10, 0.34)	0.13 (-0.17, 0.43)	0.06 (-0.25, 0.37)	0.84
	EtFOSAA	0.15 (-0.02, 0.31)	0.21 (-0.01, 0.43)	0.07 (-0.17, 0.30)	0.32
	MeFOSAA	0.01 (-0.18, 0.20)	-0.01 (-0.28, 0.25)	0.08 (-0.17, 0.33)	0.60
Lean mass					
BIA lean mass index (kg/m ²)	PFOS	0.36 (0.05, 0.66)	0.30 (0.02, 0.58)	0.54 (0.17, 0.91)	0.36
	PFOA	0.08 (-0.23, 0.38)	0.18 (-0.09, 0.45)	0.27 (-0.12, 0.66)	0.80
	PFHxS	0.17 (-0.02, 0.36)	0.01 (-0.16, 0.19)	0.33 (0.10, 0.56)	0.03
	PFNA	0.26 (-0.01, 0.53)	0.23 (-0.01, 0.47)	0.48 (0.13, 0.83)	0.24
	EtFOSAA	0.12 (-0.08, 0.32)	0.21 (0.03, 0.39)	0.04 (-0.21, 0.29)	0.32
	MeFOSAA	0.18 (-0.05, 0.40)	0.08 (-0.13, 0.29)	0.26 (-0.02, 0.54)	0.33
DXA lean mass index (kg/m ²)	PFOS	0.25 (-0.10, 0.61)	0.16 (-0.22, 0.54)	0.47 (-0.03, 0.96)	0.66
	PFOA	-0.02 (-0.37, 0.33)	0.03 (-0.33, 0.40)	0.21 (-0.31, 0.72)	0.95
	PFHxS	0.19 (-0.01, 0.40)	0.03 (-0.20, 0.26)	0.35 (0.07, 0.64)	0.08
	PFNA	0.10 (-0.21, 0.40)	0.12 (-0.21, 0.45)	0.21 (-0.23, 0.65)	0.94
	EtFOSAA	0.11 (-0.12, 0.34)	0.19 (-0.06, 0.43)	0.08 (-0.26, 0.42)	0.61
	MeFOSAA	0.20 (-0.06, 0.46)	0.08 (-0.21, 0.37)	0.27 (-0.09, 0.63)	0.31

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; P-int, P-interaction; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; BMI, body mass index; BIA, bioelectrical impedance analysis; and DXA, dual-energy X-ray absorptiometry.

1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.
2. Overall $n = 545$ for obesity, 545 for BMI, 545 for BMI-z, 534 for sum of subscapular and triceps skinfold thicknesses, 544 for BIA percentage fat, 439 for DXA percentage fat, 543 for BIA fat mass index, 439 for DXA fat mass index, 544 for waist circumference, 544 for waist-to-hip circumference ratio, 534 for subscapular-to-triceps skinfold thickness ratio, 439 for DXA trunk fat mass index, 543 for BIA lean mass index, and 439 DXA total lean mass index. Sample sizes by child sex are provided in **Table S5**.
3. Obesity was defined as BMI $\geq 95^{\text{th}}$ percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts (reference is BMI $< 95^{\text{th}}$ percentile).

Table S10. Associations (estimates and 95% confidence intervals) of prenatal PFAS levels with adiposity and body composition measures in late adolescence after: 1) removing maternal pre-pregnancy body mass index from the multivariable-adjusted models; 2) additionally adjusted for first-trimester albumin; 3) additionally adjusted for first-trimester DASH diet scores; and 4) additionally adjusted for urbanicity scores ($n = 522$ to 545 ; sample size varies by models due to missing covariates). Estimates show the differences in continuous values of adiposity and body composition measures or relative risks of obesity (yes vs. no) per doubling of prenatal PFAS levels.

Adiposity and body composition measures (units)	PFAS	Model 1: Adjusted model in Table 3 ¹ ($n = 545$)	Model 2: Model 1 ¹ – pre-pregnancy BMI ($n = 545$)	Model 3: Model 1 ¹ + first-trimester albumin ($n = 525$)	Model 4: Model 1 ¹ + first-trimester DASH diet scores ($n = 522$)	Model 5: Model 1 ¹ + urbanicity scores ($n = 537$)
Obesity						
Obesity ²	PFOS	1.59 (1.19, 2.12)	1.73 (1.30, 2.29)	1.61 (1.17, 2.21)	1.55 (1.15, 2.07)	1.54 (1.14, 2.08)
	PFOA	1.24 (0.98, 1.57)	1.35 (1.07, 1.70)	1.26 (0.94, 1.68)	1.22 (0.96, 1.56)	1.21 (0.94, 1.55)
	PFHxS	1.14 (0.93, 1.40)	1.12 (0.93, 1.35)	1.07 (0.86, 1.33)	1.12 (0.93, 1.35)	1.11 (0.91, 1.37)
	PFNA	1.49 (1.11, 1.99)	1.36 (1.05, 1.76)	1.60 (1.11, 2.32)	1.49 (1.09, 2.04)	1.47 (1.09, 1.99)
	EtFOSAA	1.16 (0.97, 1.39)	1.25 (1.05, 1.50)	1.11 (0.93, 1.34)	1.13 (0.94, 1.35)	1.15 (0.95, 1.38)
	MeFOSAA	1.13 (0.90, 1.42)	1.12 (0.91, 1.39)	1.08 (0.83, 1.41)	1.15 (0.91, 1.46)	1.13 (0.90, 1.41)
Overall adiposity						
BMI (kg/m ²)	PFOS	0.74 (0.15, 1.33)	1.02 (0.40, 1.64)	0.91 (0.22, 1.60)	0.71 (0.12, 1.29)	0.66 (0.06, 1.26)
	PFOA	0.31 (-0.28, 0.90)	0.56 (-0.07, 1.18)	0.42 (-0.25, 1.09)	0.23 (-0.35, 0.82)	0.29 (-0.30, 0.87)
	PFHxS	0.25 (-0.12, 0.62)	0.23 (-0.16, 0.63)	0.24 (-0.18, 0.65)	0.24 (-0.12, 0.60)	0.19 (-0.18, 0.56)
	PFNA	0.43 (-0.10, 0.96)	0.38 (-0.18, 0.94)	0.59 (-0.01, 1.20)	0.36 (-0.16, 0.88)	0.46 (-0.07, 0.99)
	EtFOSAA	0.38 (-0.00, 0.77)	0.57 (0.16, 0.98)	0.35 (-0.06, 0.76)	0.31 (-0.08, 0.70)	0.40 (0.02, 0.79)
	MeFOSAA	0.20 (-0.24, 0.64)	0.26 (-0.21, 0.73)	0.16 (-0.32, 0.64)	0.12 (-0.33, 0.57)	0.18 (-0.27, 0.62)
BMI z-score	PFOS	0.13 (0.01, 0.25)	0.18 (0.05, 0.31)	0.16 (0.02, 0.30)	0.11 (-0.02, 0.23)	0.13 (0.00, 0.25)
	PFOA	0.03 (-0.09, 0.15)	0.07 (-0.05, 0.20)	0.05 (-0.09, 0.19)	-0.01 (-0.13, 0.12)	0.03 (-0.09, 0.16)
	PFHxS	0.05 (-0.03, 0.13)	0.05 (-0.03, 0.13)	0.04 (-0.04, 0.13)	0.05 (-0.03, 0.12)	0.04 (-0.04, 0.12)
	PFNA	0.06 (-0.05, 0.17)	0.05 (-0.07, 0.16)	0.08 (-0.04, 0.21)	0.03 (-0.08, 0.14)	0.07 (-0.05, 0.18)
	EtFOSAA	0.08 (-0.00, 0.16)	0.11 (0.03, 0.20)	0.07 (-0.01, 0.16)	0.07 (-0.02, 0.15)	0.09 (0.01, 0.17)
	MeFOSAA	0.06 (-0.03, 0.16)	0.08 (-0.02, 0.17)	0.06 (-0.04, 0.16)	0.03 (-0.06, 0.13)	0.06 (-0.03, 0.15)

Sum of subscapular and triceps skinfold thicknesses (mm)	PFOS	1.31 (-0.59, 3.22)	1.90 (-0.05, 3.84)	1.41 (-0.80, 3.62)	1.25 (-0.69, 3.19)	1.38 (-0.55, 3.32)
	PFOA	0.51 (-1.36, 2.38)	1.06 (-0.85, 2.98)	0.70 (-1.42, 2.82)	0.30 (-1.61, 2.20)	0.53 (-1.35, 2.42)
	PFHxS	0.12 (-1.06, 1.29)	0.04 (-1.17, 1.25)	-0.28 (-1.60, 1.03)	0.17 (-1.01, 1.35)	0.02 (-1.17, 1.21)
	PFNA	0.86 (-0.84, 2.55)	0.75 (-1.00, 2.50)	1.09 (-0.84, 3.02)	0.80 (-0.92, 2.53)	0.99 (-0.73, 2.72)
	EtFOSAA	1.17 (-0.07, 2.41)	1.55 (0.28, 2.82)	1.02 (-0.27, 2.32)	1.01 (-0.25, 2.27)	1.21 (-0.04, 2.46)
	MeFOSAA	0.41 (-1.00, 1.82)	0.50 (-0.95, 1.95)	0.27 (-1.25, 1.79)	0.34 (-1.12, 1.80)	0.63 (-0.81, 2.06)
BIA percentage fat	PFOS	0.72 (-0.57, 2.01)	1.16 (-0.16, 2.48)	1.01 (-0.48, 2.49)	0.69 (-0.62, 2.00)	0.57 (-0.74, 1.89)
	PFOA	0.48 (-0.79, 1.76)	0.85 (-0.45, 2.16)	0.81 (-0.63, 2.25)	0.34 (-0.96, 1.64)	0.43 (-0.85, 1.72)
	PFHxS	0.00 (-0.80, 0.80)	-0.07 (-0.89, 0.75)	-0.23 (-1.13, 0.67)	0.01 (-0.79, 0.81)	-0.12 (-0.93, 0.68)
	PFNA	0.16 (-0.98, 1.31)	0.14 (-1.04, 1.32)	0.41 (-0.89, 1.71)	0.06 (-1.10, 1.22)	0.14 (-1.02, 1.30)
	EtFOSAA	0.68 (-0.16, 1.53)	0.95 (0.09, 1.81)	0.69 (-0.19, 1.58)	0.66 (-0.20, 1.52)	0.72 (-0.13, 1.57)
	MeFOSAA	0.08 (-0.88, 1.03)	0.16 (-0.83, 1.14)	0.11 (-0.93, 1.14)	-0.08 (-1.07, 0.92)	0.11 (-0.86, 1.09)
DXA percentage fat	PFOS	0.48 (-0.71, 1.66)	0.87 (-0.33, 2.07)	1.07 (-0.27, 2.41)	0.41 (-0.78, 1.60)	0.46 (-0.75, 1.66)
	PFOA	0.12 (-1.05, 1.28)	0.49 (-0.70, 1.67)	0.71 (-0.60, 2.01)	0.02 (-1.15, 1.20)	0.16 (-1.01, 1.34)
	PFHxS	-0.37 (-1.06, 0.32)	-0.42 (-1.12, 0.29)	-0.51 (-1.29, 0.27)	-0.36 (-1.05, 0.33)	-0.42 (-1.12, 0.28)
	PFNA	0.26 (-0.78, 1.29)	0.26 (-0.80, 1.32)	0.92 (-0.25, 2.09)	0.16 (-0.88, 1.21)	0.32 (-0.73, 1.37)
	EtFOSAA	0.59 (-0.19, 1.37)	0.83 (0.04, 1.62)	0.72 (-0.08, 1.52)	0.62 (-0.16, 1.41)	0.63 (-0.15, 1.42)
	MeFOSAA	-0.07 (-0.95, 0.81)	-0.03 (-0.93, 0.88)	0.16 (-0.79, 1.11)	-0.21 (-1.12, 0.70)	0.02 (-0.88, 0.93)
BIA fat mass index (kg/m ²)	PFOS	0.41 (-0.06, 0.88)	0.61 (0.13, 1.10)	0.54 (0.00, 1.08)	0.40 (-0.07, 0.86)	0.33 (-0.14, 0.80)
	PFOA	0.25 (-0.22, 0.71)	0.42 (-0.06, 0.90)	0.37 (-0.16, 0.89)	0.21 (-0.25, 0.67)	0.22 (-0.24, 0.68)
	PFHxS	0.08 (-0.21, 0.37)	0.05 (-0.25, 0.36)	0.03 (-0.30, 0.36)	0.08 (-0.21, 0.36)	0.03 (-0.26, 0.32)
	PFNA	0.18 (-0.24, 0.59)	0.16 (-0.27, 0.59)	0.30 (-0.17, 0.78)	0.14 (-0.27, 0.56)	0.18 (-0.23, 0.60)
	EtFOSAA	0.28 (-0.03, 0.59)	0.41 (0.09, 0.73)	0.28 (-0.04, 0.60)	0.25 (-0.06, 0.55)	0.29 (-0.01, 0.59)
	MeFOSAA	0.03 (-0.32, 0.38)	0.07 (-0.29, 0.43)	0.03 (-0.35, 0.40)	-0.02 (-0.37, 0.33)	0.03 (-0.32, 0.37)
DXA fat mass index (kg/m ²)	PFOS	0.34 (-0.15, 0.83)	0.58 (0.07, 1.09)	0.60 (0.05, 1.16)	0.32 (-0.16, 0.80)	0.28 (-0.21, 0.77)
	PFOA	0.08 (-0.40, 0.56)	0.30 (-0.20, 0.80)	0.30 (-0.24, 0.85)	0.04 (-0.43, 0.52)	0.07 (-0.41, 0.55)
	PFHxS	-0.04 (-0.33, 0.24)	-0.06 (-0.36, 0.24)	-0.06 (-0.38, 0.27)	-0.05 (-0.33, 0.23)	-0.08 (-0.37, 0.21)

	PFNA	0.19 (-0.24, 0.62)	0.19 (-0.26, 0.63)	0.45 (-0.03, 0.94)	0.15 (-0.27, 0.57)	0.22 (-0.21, 0.64)
	EtFOSAA	0.29 (-0.04, 0.61)	0.43 (0.09, 0.76)	0.34 (0.00, 0.67)	0.26 (-0.05, 0.58)	0.30 (-0.02, 0.62)
	MeFOSAA	0.04 (-0.33, 0.40)	0.07 (-0.31, 0.45)	0.11 (-0.28, 0.50)	0.01 (-0.36, 0.37)	0.06 (-0.31, 0.43)
Central adiposity						
Waist circumference (cm)	PFOS	1.09 (-0.40, 2.59)	1.74 (0.17, 3.30)	1.95 (0.22, 3.68)	0.82 (-0.68, 2.32)	0.96 (-0.54, 2.47)
	PFOA	-0.00 (-1.48, 1.48)	0.58 (-0.98, 2.13)	0.73 (-0.96, 2.41)	-0.30 (-1.78, 1.19)	0.01 (-1.46, 1.49)
	PFHxS	0.25 (-0.68, 1.18)	0.24 (-0.75, 1.22)	0.43 (-0.62, 1.48)	0.18 (-0.74, 1.10)	0.13 (-0.80, 1.06)
	PFNA	0.04 (-1.29, 1.38)	-0.09 (-1.49, 1.32)	0.60 (-0.92, 2.12)	-0.21 (-1.54, 1.12)	0.15 (-1.18, 1.49)
	EtFOSAA	0.82 (-0.16, 1.80)	1.26 (0.23, 2.28)	0.93 (-0.10, 1.96)	0.51 (-0.47, 1.49)	0.88 (-0.10, 1.85)
	MeFOSAA	0.08 (-1.04, 1.20)	0.24 (-0.94, 1.42)	0.19 (-1.02, 1.40)	-0.17 (-1.31, 0.97)	0.03 (-1.09, 1.16)
Waist-to-hip circumference ratio ($\times 100$)	PFOS	0.31 (-0.46, 1.08)	0.53 (-0.26, 1.31)	0.73 (-0.16, 1.63)	0.06 (-0.73, 0.84)	0.30 (-0.47, 1.08)
	PFOA	0.03 (-0.73, 0.79)	0.23 (-0.55, 1.01)	0.35 (-0.52, 1.22)	-0.03 (-0.81, 0.74)	0.07 (-0.69, 0.83)
	PFHxS	-0.15 (-0.63, 0.33)	-0.13 (-0.62, 0.36)	-0.04 (-0.58, 0.50)	-0.18 (-0.65, 0.30)	-0.19 (-0.66, 0.29)
	PFNA	-0.21 (-0.89, 0.48)	-0.27 (-0.97, 0.44)	-0.06 (-0.85, 0.72)	-0.32 (-1.01, 0.37)	-0.14 (-0.83, 0.55)
	EtFOSAA	0.34 (-0.17, 0.84)	0.49 (-0.03, 1.00)	0.42 (-0.11, 0.95)	0.15 (-0.37, 0.66)	0.36 (-0.14, 0.86)
	MeFOSAA	0.23 (-0.34, 0.80)	0.29 (-0.30, 0.88)	0.37 (-0.25, 1.00)	0.12 (-0.48, 0.71)	0.21 (-0.37, 0.79)
Subscapular-to-triceps skinfold thickness ratio ($\times 100$)	PFOS	2.71 (-0.83, 6.25)	3.01 (-0.54, 6.56)	3.10 (-0.98, 7.19)	2.47 (-1.17, 6.11)	2.82 (-0.70, 6.35)
	PFOA	3.23 (-0.24, 6.70)	3.52 (0.04, 7.00)	3.86 (-0.05, 7.78)	2.84 (-0.72, 6.41)	3.50 (0.07, 6.92)
	PFHxS	0.73 (-1.46, 2.92)	0.91 (-1.28, 3.11)	1.42 (-1.02, 3.86)	0.78 (-1.43, 2.98)	0.59 (-1.57, 2.76)
	PFNA	1.72 (-1.44, 4.88)	1.56 (-1.62, 4.75)	1.61 (-1.96, 5.18)	1.86 (-1.37, 5.09)	1.99 (-1.15, 5.13)
	EtFOSAA	1.69 (-0.62, 4.00)	1.93 (-0.38, 4.24)	1.37 (-1.04, 3.77)	0.99 (-1.38, 3.36)	1.85 (-0.43, 4.12)
	MeFOSAA	-0.67 (-3.29, 1.95)	-0.54 (-3.18, 2.10)	-1.39 (-4.21, 1.42)	-0.31 (-3.05, 2.44)	-0.55 (-3.17, 2.06)
DXA trunk fat mass index (kg/m^2)	PFOS	0.19 (-0.07, 0.44)	0.31 (0.05, 0.58)	0.34 (0.05, 0.62)	0.17 (-0.08, 0.42)	0.15 (-0.10, 0.41)
	PFOA	0.07 (-0.18, 0.32)	0.19 (-0.07, 0.45)	0.21 (-0.07, 0.49)	0.06 (-0.19, 0.31)	0.07 (-0.18, 0.32)
	PFHxS	-0.02 (-0.17, 0.13)	-0.02 (-0.18, 0.13)	-0.02 (-0.18, 0.15)	-0.02 (-0.16, 0.13)	-0.04 (-0.19, 0.11)
	PFNA	0.12 (-0.10, 0.34)	0.12 (-0.11, 0.35)	0.27 (0.02, 0.52)	0.11 (-0.11, 0.33)	0.14 (-0.08, 0.36)
	EtFOSAA	0.15 (-0.02, 0.31)	0.22 (0.05, 0.39)	0.17 (0.00, 0.35)	0.13 (-0.04, 0.29)	0.15 (-0.01, 0.32)

	MeFOSAA	0.01 (-0.18, 0.20)	0.03 (-0.17, 0.23)	0.05 (-0.16, 0.25)	-0.00 (-0.19, 0.19)	0.02 (-0.17, 0.21)
Lean mass						
BIA lean mass index (kg/m ²)	PFOS	0.36 (0.05, 0.66)	0.44 (0.13, 0.76)	0.37 (0.02, 0.72)	0.31 (-0.01, 0.62)	0.35 (0.04, 0.67)
	PFOA	0.08 (-0.23, 0.38)	0.15 (-0.16, 0.47)	0.05 (-0.29, 0.39)	0.03 (-0.28, 0.34)	0.08 (-0.23, 0.38)
	PFHxS	0.17 (-0.02, 0.36)	0.18 (-0.01, 0.38)	0.20 (-0.02, 0.41)	0.16 (-0.03, 0.35)	0.16 (-0.03, 0.35)
	PFNA	0.26 (-0.01, 0.53)	0.23 (-0.05, 0.51)	0.28 (-0.03, 0.59)	0.22 (-0.06, 0.50)	0.28 (0.01, 0.56)
	EtFOSAA	0.12 (-0.08, 0.32)	0.19 (-0.02, 0.39)	0.08 (-0.13, 0.29)	0.06 (-0.14, 0.27)	0.13 (-0.07, 0.33)
	MeFOSAA	0.18 (-0.05, 0.40)	0.20 (-0.03, 0.44)	0.12 (-0.12, 0.37)	0.14 (-0.10, 0.37)	0.16 (-0.08, 0.39)
DXA lean mass index (kg/m ²)	PFOS	0.25 (-0.10, 0.61)	0.40 (0.04, 0.77)	0.28 (-0.12, 0.69)	0.23 (-0.12, 0.59)	0.20 (-0.16, 0.55)
	PFOA	-0.02 (-0.37, 0.33)	0.12 (-0.23, 0.48)	-0.05 (-0.45, 0.34)	-0.07 (-0.42, 0.28)	-0.04 (-0.39, 0.30)
	PFHxS	0.19 (-0.01, 0.40)	0.21 (-0.01, 0.42)	0.23 (0.00, 0.47)	0.18 (-0.02, 0.39)	0.16 (-0.05, 0.37)
	PFNA	0.10 (-0.21, 0.40)	0.09 (-0.24, 0.41)	0.08 (-0.27, 0.44)	0.06 (-0.25, 0.37)	0.11 (-0.20, 0.42)
	EtFOSAA	0.11 (-0.12, 0.34)	0.20 (-0.04, 0.44)	0.10 (-0.15, 0.34)	0.06 (-0.18, 0.29)	0.12 (-0.12, 0.35)
	MeFOSAA	0.20 (-0.06, 0.46)	0.23 (-0.04, 0.50)	0.16 (-0.13, 0.45)	0.21 (-0.06, 0.48)	0.18 (-0.09, 0.45)

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; DASH, Dietary Approaches to Stop Hypertension; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; BMI, body mass index; BIA, bioelectrical impedance analysis; and DXA, dual-energy X-ray absorptiometry.

1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.

2. Obesity was defined as BMI \geq 95th percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts (reference is BMI < 95th percentile).

Table S11. Associations (estimates and 95% confidence intervals) of prenatal PFAS levels with adiposity and body composition measures in late adolescence after using the stabilized inverse probability weighting method to account for potential selection bias ($n = 545$).

Adiposity and body composition measures (units)	PFAS	Adjusted model in Table 3 ¹	After applying the stabilized inverse probability weights ²
Obesity			
Obesity ³	PFOS	1.59 (1.19, 2.12)	1.62 (1.21, 2.17)
	PFOA	1.24 (0.98, 1.57)	1.22 (0.97, 1.54)
	PFHxS	1.14 (0.93, 1.40)	1.17 (0.93, 1.48)
	PFNA	1.49 (1.11, 1.99)	1.43 (1.05, 1.93)
	EtFOSAA	1.16 (0.97, 1.39)	1.17 (0.97, 1.40)
	MeFOSAA	1.13 (0.90, 1.42)	1.09 (0.88, 1.36)
Overall adiposity			
BMI (kg/m ²)	PFOS	0.74 (0.15, 1.33)	0.74 (0.12, 1.36)
	PFOA	0.31 (-0.28, 0.90)	0.28 (-0.33, 0.90)
	PFHxS	0.25 (-0.12, 0.62)	0.24 (-0.13, 0.61)
	PFNA	0.43 (-0.10, 0.96)	0.45 (-0.09, 1.00)
	EtFOSAA	0.38 (-0.00, 0.77)	0.40 (-0.01, 0.82)
	MeFOSAA	0.20 (-0.24, 0.64)	0.14 (-0.33, 0.61)
BMI z-score	PFOS	0.13 (0.01, 0.25)	0.12 (-0.00, 0.24)
	PFOA	0.03 (-0.09, 0.15)	0.03 (-0.09, 0.15)
	PFHxS	0.05 (-0.03, 0.13)	0.05 (-0.04, 0.14)
	PFNA	0.06 (-0.05, 0.17)	0.06 (-0.05, 0.17)
	EtFOSAA	0.08 (-0.00, 0.16)	0.08 (-0.00, 0.16)
	MeFOSAA	0.06 (-0.03, 0.16)	0.06 (-0.04, 0.15)
Sum of subscapular and triceps skinfold thicknesses (mm)	PFOS	1.31 (-0.59, 3.22)	1.46 (-0.36, 3.29)
	PFOA	0.51 (-1.36, 2.38)	0.48 (-1.43, 2.39)
	PFHxS	0.12 (-1.06, 1.29)	0.12 (-1.04, 1.28)
	PFNA	0.86 (-0.84, 2.55)	1.18 (-0.46, 2.81)
	EtFOSAA	1.17 (-0.07, 2.41)	1.28 (-0.00, 2.55)
	MeFOSAA	0.41 (-1.00, 1.82)	0.56 (-0.96, 2.08)
BIA percentage fat	PFOS	0.72 (-0.57, 2.01)	0.81 (-0.55, 2.18)
	PFOA	0.48 (-0.79, 1.76)	0.27 (-1.08, 1.63)
	PFHxS	0.00 (-0.80, 0.80)	-0.09 (-0.95, 0.76)
	PFNA	0.16 (-0.98, 1.31)	0.18 (-1.06, 1.41)
	EtFOSAA	0.68 (-0.16, 1.53)	0.68 (-0.17, 1.54)
	MeFOSAA	0.08 (-0.88, 1.03)	-0.07 (-1.05, 0.90)
DXA percentage fat	PFOS	0.48 (-0.71, 1.66)	0.57 (-0.67, 1.82)
	PFOA	0.12 (-1.05, 1.28)	-0.10 (-1.37, 1.18)

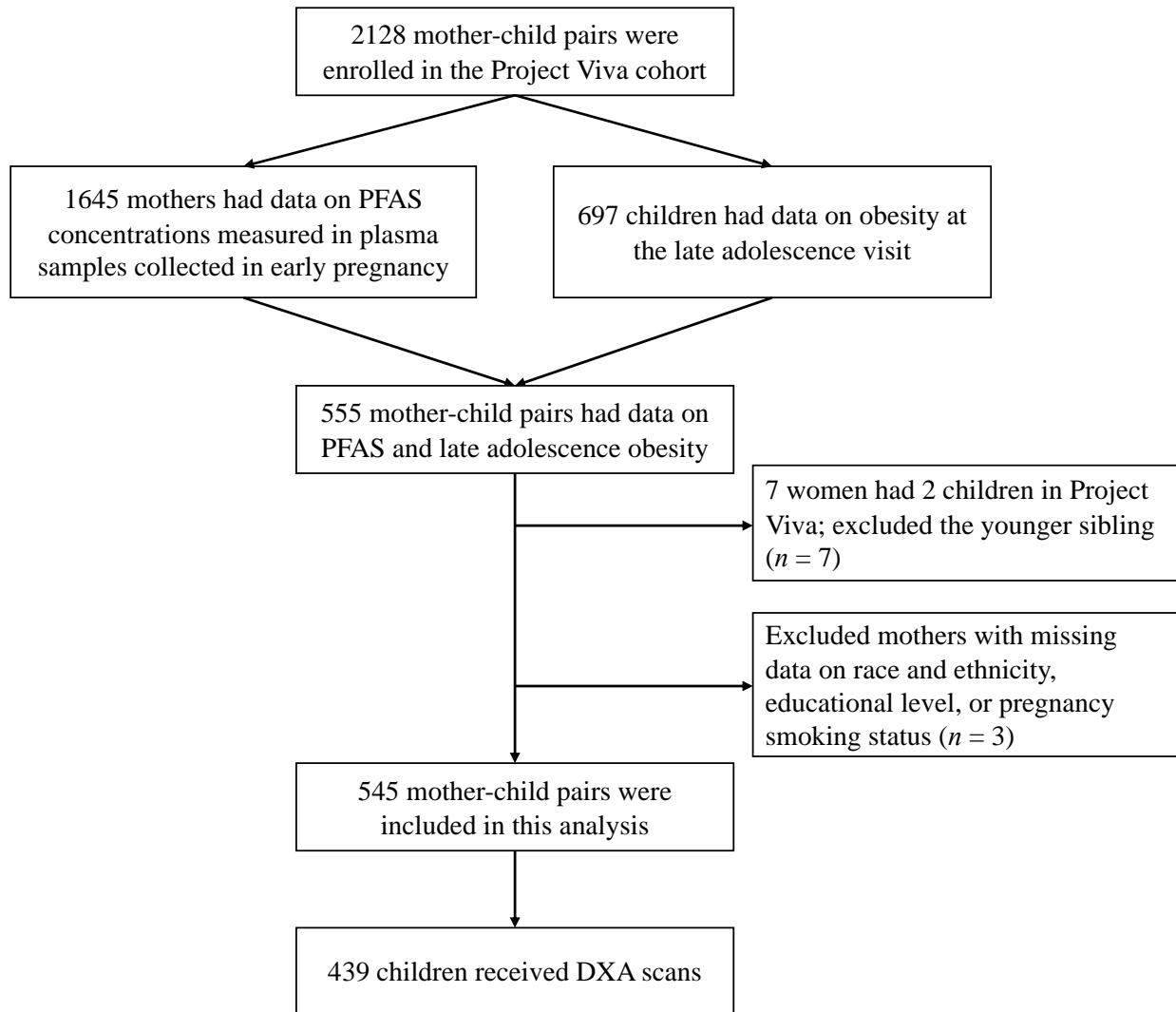
	PFHxS	-0.37 (-1.06, 0.32)	-0.44 (-1.20, 0.32)
	PFNA	0.26 (-0.78, 1.29)	0.30 (-0.81, 1.42)
	EtFOSAA	0.59 (-0.19, 1.37)	0.63 (-0.17, 1.43)
	MeFOSAA	-0.07 (-0.95, 0.81)	-0.09 (-1.03, 0.85)
BIA fat mass index (kg/m ²)	PFOS	0.41 (-0.06, 0.88)	0.47 (-0.04, 0.98)
	PFOA	0.25 (-0.22, 0.71)	0.19 (-0.30, 0.69)
	PFHxS	0.08 (-0.21, 0.37)	0.05 (-0.24, 0.35)
	PFNA	0.18 (-0.24, 0.59)	0.20 (-0.24, 0.65)
	EtFOSAA	0.28 (-0.03, 0.59)	0.30 (-0.02, 0.62)
	MeFOSAA	0.03 (-0.32, 0.38)	-0.03 (-0.39, 0.33)
DXA fat mass index (kg/m ²)	PFOS	0.34 (-0.15, 0.83)	0.43 (-0.08, 0.95)
	PFOA	0.08 (-0.40, 0.56)	0.05 (-0.45, 0.56)
	PFHxS	-0.04 (-0.33, 0.24)	-0.05 (-0.34, 0.23)
	PFNA	0.19 (-0.24, 0.62)	0.23 (-0.22, 0.69)
	EtFOSAA	0.29 (-0.04, 0.61)	0.34 (-0.01, 0.68)
	MeFOSAA	0.04 (-0.33, 0.40)	0.00 (-0.42, 0.42)
Central adiposity			
Waist circumference (cm)	PFOS	1.09 (-0.40, 2.59)	1.21 (-0.32, 2.73)
	PFOA	-0.00 (-1.48, 1.48)	-0.09 (-1.59, 1.41)
	PFHxS	0.25 (-0.68, 1.18)	0.25 (-0.71, 1.20)
	PFNA	0.04 (-1.29, 1.38)	0.01 (-1.31, 1.34)
	EtFOSAA	0.82 (-0.16, 1.80)	0.92 (-0.14, 1.97)
	MeFOSAA	0.08 (-1.04, 1.20)	-0.07 (-1.26, 1.13)
Waist-to-hip circumference ratio (×100)	PFOS	0.31 (-0.46, 1.08)	0.51 (-0.37, 1.38)
	PFOA	0.03 (-0.73, 0.79)	-0.08 (-0.85, 0.69)
	PFHxS	-0.15 (-0.63, 0.33)	-0.18 (-0.77, 0.42)
	PFNA	-0.21 (-0.89, 0.48)	-0.27 (-1.00, 0.47)
	EtFOSAA	0.34 (-0.17, 0.84)	0.45 (-0.11, 1.01)
	MeFOSAA	0.23 (-0.34, 0.80)	0.24 (-0.33, 0.81)
Subscapular-to-triceps skinfold thickness ratio (×100)	PFOS	2.71 (-0.83, 6.25)	3.20 (-0.68, 7.08)
	PFOA	3.23 (-0.24, 6.70)	3.75 (-0.01, 7.52)
	PFHxS	0.73 (-1.46, 2.92)	1.07 (-1.20, 3.34)
	PFNA	1.72 (-1.44, 4.88)	0.80 (-2.84, 4.45)
	EtFOSAA	1.69 (-0.62, 4.00)	2.16 (-0.39, 4.72)
	MeFOSAA	-0.67 (-3.29, 1.95)	-0.67 (-3.24, 1.91)
DXA trunk fat mass index (kg/m ²)	PFOS	0.19 (-0.07, 0.44)	0.24 (-0.02, 0.50)
	PFOA	0.07 (-0.18, 0.32)	0.07 (-0.19, 0.33)
	PFHxS	-0.02 (-0.17, 0.13)	-0.02 (-0.16, 0.12)
	PFNA	0.12 (-0.10, 0.34)	0.14 (-0.08, 0.37)

	EtFOSAA	0.15 (-0.02, 0.31)	0.18 (-0.00, 0.35)
	MeFOSAA	0.01 (-0.18, 0.20)	-0.01 (-0.24, 0.22)
Lean mass			
BIA lean mass index (kg/m ²)	PFOS	0.36 (0.05, 0.66)	0.34 (0.04, 0.65)
	PFOA	0.08 (-0.23, 0.38)	0.12 (-0.17, 0.41)
	PFHxS	0.17 (-0.02, 0.36)	0.19 (0.01, 0.37)
	PFNA	0.26 (-0.01, 0.53)	0.27 (0.01, 0.54)
	EtFOSAA	0.12 (-0.08, 0.32)	0.14 (-0.08, 0.37)
	MeFOSAA	0.18 (-0.05, 0.40)	0.18 (-0.05, 0.42)
DXA lean mass index (kg/m ²)	PFOS	0.25 (-0.10, 0.61)	0.29 (-0.04, 0.62)
	PFOA	-0.02 (-0.37, 0.33)	0.04 (-0.30, 0.39)
	PFHxS	0.19 (-0.01, 0.40)	0.21 (0.01, 0.41)
	PFNA	0.10 (-0.21, 0.40)	0.12 (-0.18, 0.43)
	EtFOSAA	0.11 (-0.12, 0.34)	0.14 (-0.10, 0.38)
	MeFOSAA	0.20 (-0.06, 0.46)	0.16 (-0.10, 0.41)

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; BMI, body mass index; BIA, bioelectrical impedance analysis; and DXA, dual-energy X-ray absorptiometry.

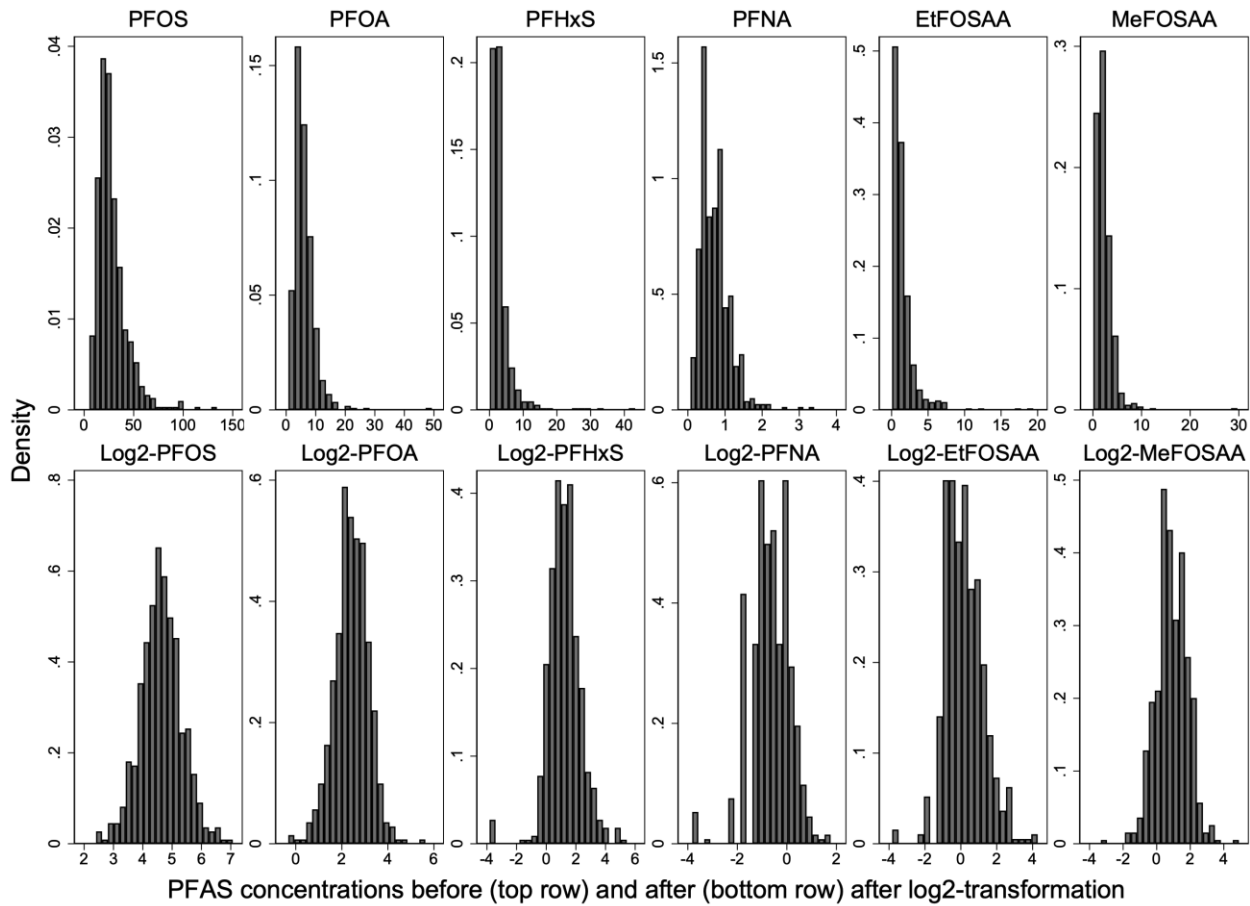
1. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.
2. Predictors used to derive the probability weights included all the covariates in **Table S3** (i.e., maternal age at enrollment, race and ethnicity, pre-pregnancy BMI category, college graduate, married or cohabiting, household income >\$70,000/year, pregnancy smoking status, nulliparous, first-trimester albumin, first-trimester Dietary Approaches to Stop Hypertension diet score, and urbanicity score; and child sex, birthweight, and gestational age). We used the multiple imputation by chained equation method (10 imputations and each with 10 iterations) to impute missing covariates in the weight prediction models.
3. Obesity was defined as BMI \geq 95th percentile for age and sex based on the Centers for Disease Control and Prevention Growth Charts (reference is BMI < 95th percentile).

Figure S1. Participant selection flowchart ($n = 545$).



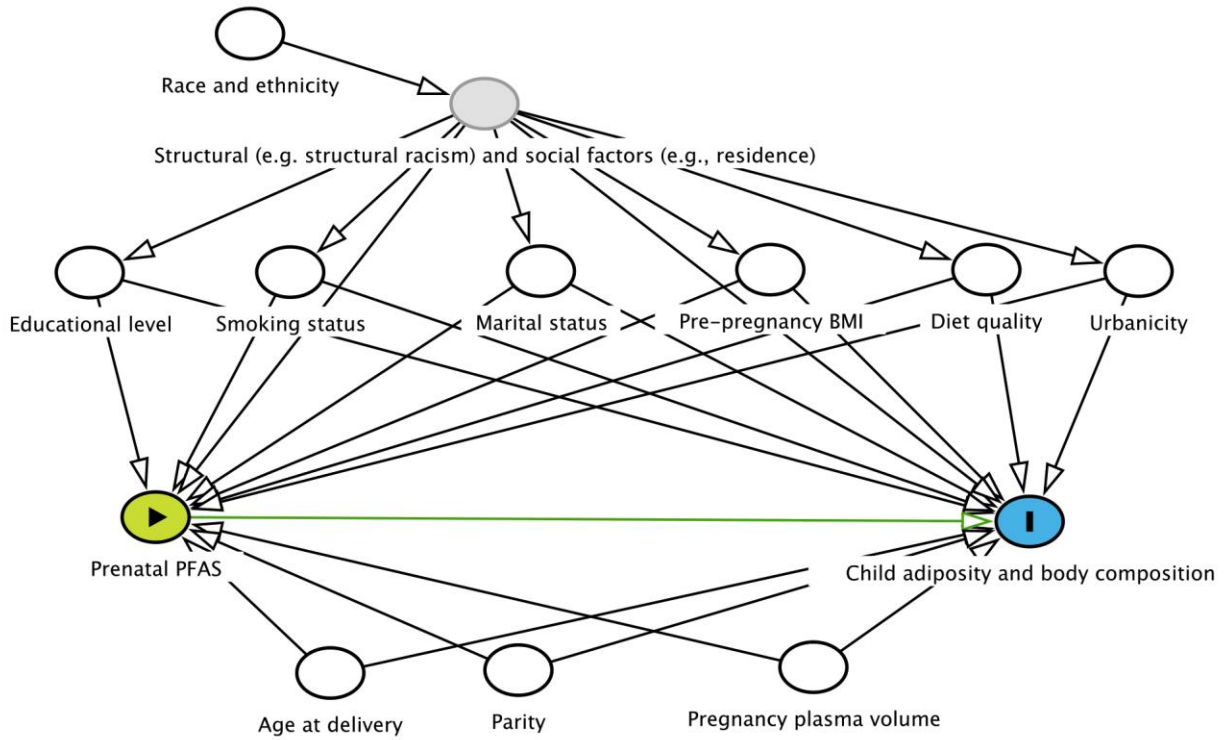
Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; and DXA, dual-energy X-ray absorptiometry.

Figure S2. Distributions of PFAS (ng/mL) measured in maternal plasma samples collected in the first trimester during pregnancy ($n = 545$). PFAS concentrations below the LOD (provided in **Table 1**) were imputed using $\text{LOD}/\sqrt{2}$.



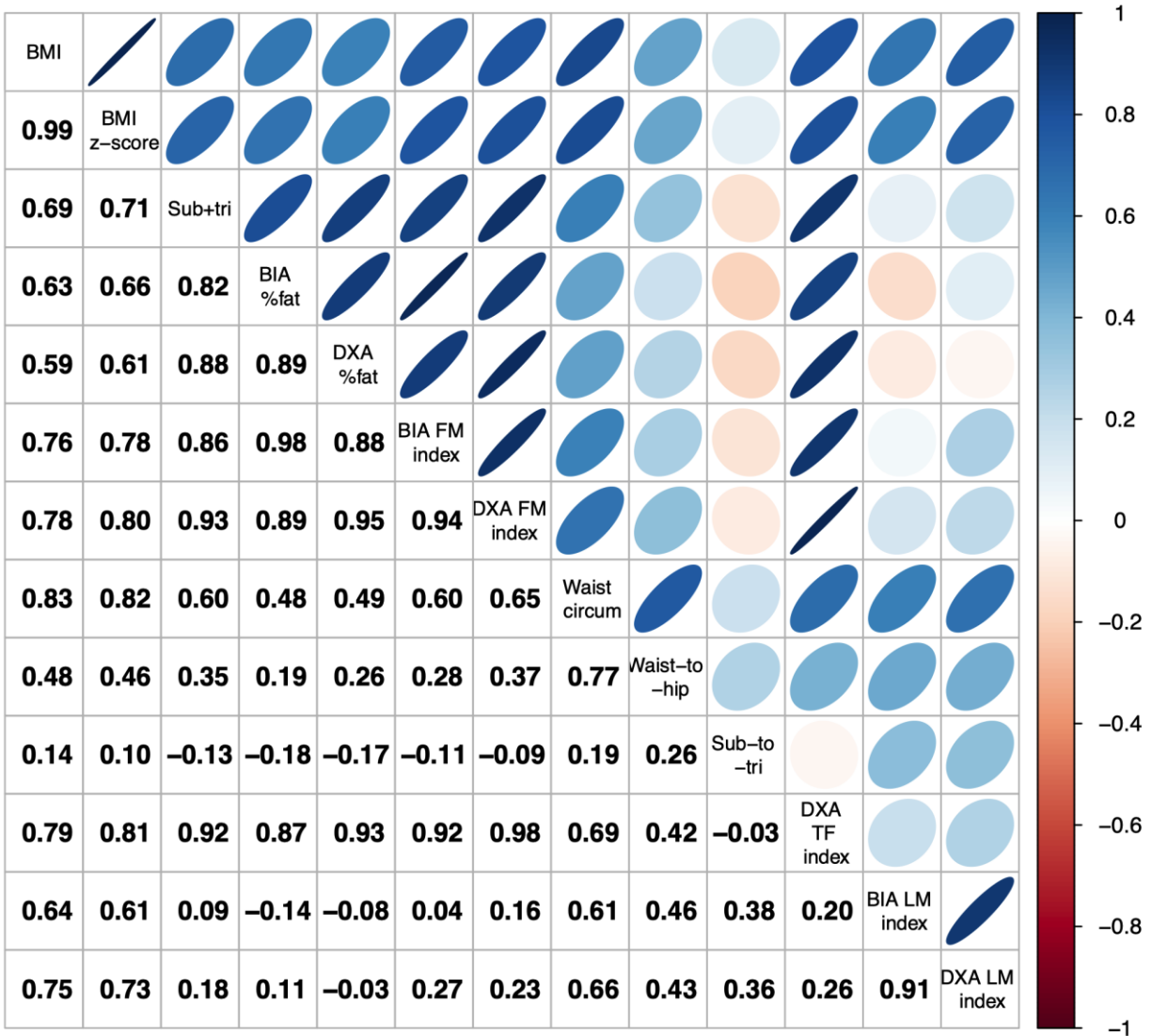
Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; LOD, limit of detection; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

Figure S3. Directed Acyclic Graphs (DAG) showing the hypothesized relationships between all variables in this analysis. DAGs were created on dagitty.net.



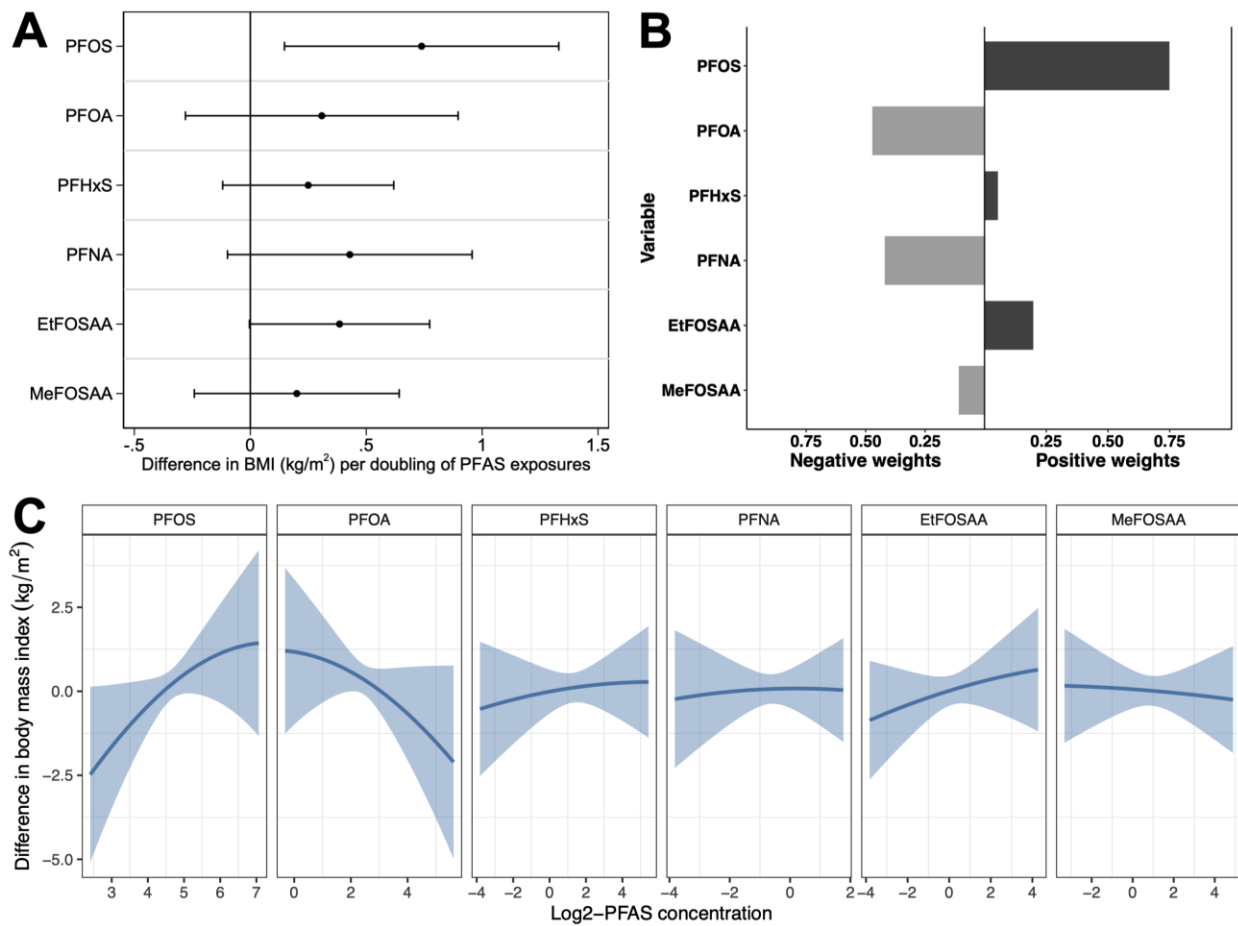
Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; and BMI, body mass index.

Figure S4. Spearman correlation matrix for adiposity and body composition measures in late adolescence. Sample sizes for each measure are provided in **Table S5**. Correlation between each pair of adiposity measures is computed using all complete pairs of observations on these measures. Color intensity is proportional to the correlation coefficients.



Abbreviations: BMI indicates body mass index; sub+tri, sum of subscapular and triceps skinfold thicknesses; BIA %fat, BIA percentage fat; DXA %fat, DXA percentage fat; BIA FM index, BIA fat mass index; DXA FM index, DXA fat mass index; waist circum, waist circumference; waist-to-hip, waist-to-hip circumference ratio ($\times 100$); sub-to-tri, subscapular-to-triceps skinfold thickness ratio ($\times 100$); DXA TF index, DXA trunk fat mass index; BIA LM index, BIA lean mass index; DXA LM index, DXA lean mass index; BIA, bioelectrical impedance analysis; and DXA, dual-energy X-ray absorptiometry.

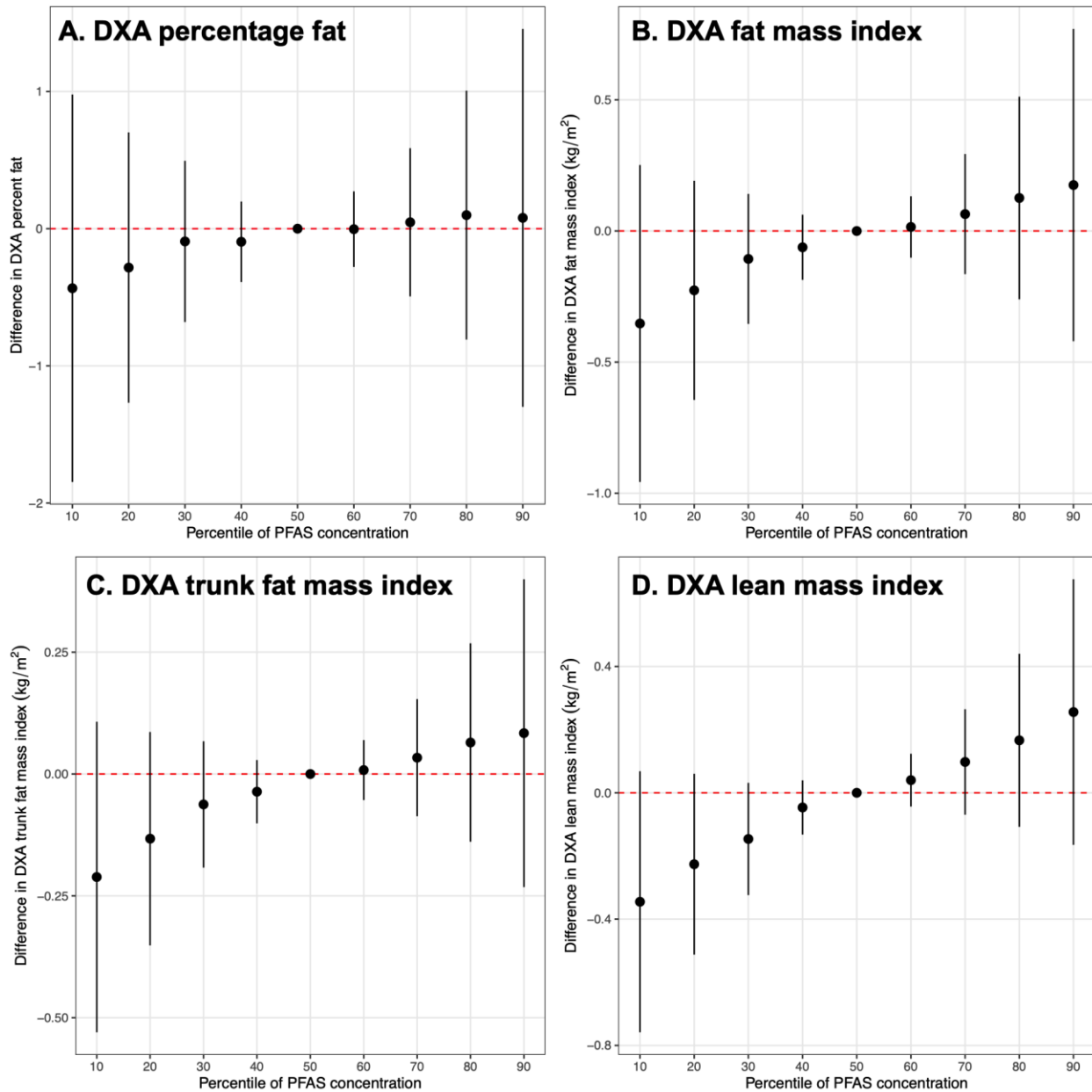
Figure S5. Multivariable-adjusted associations between individual prenatal PFAS and BMI (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 545$). Panel A shows the differences and 95% confidence intervals of BMI per doubling of PFAS levels (estimates are provided in **Table 3** [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on BMI in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in **Table S8**). Panel C shows the estimates and 95% credible intervals of PFAS with BMI when all other PFAS are fixed at their 50th percentile.



Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and BMI, body mass index.

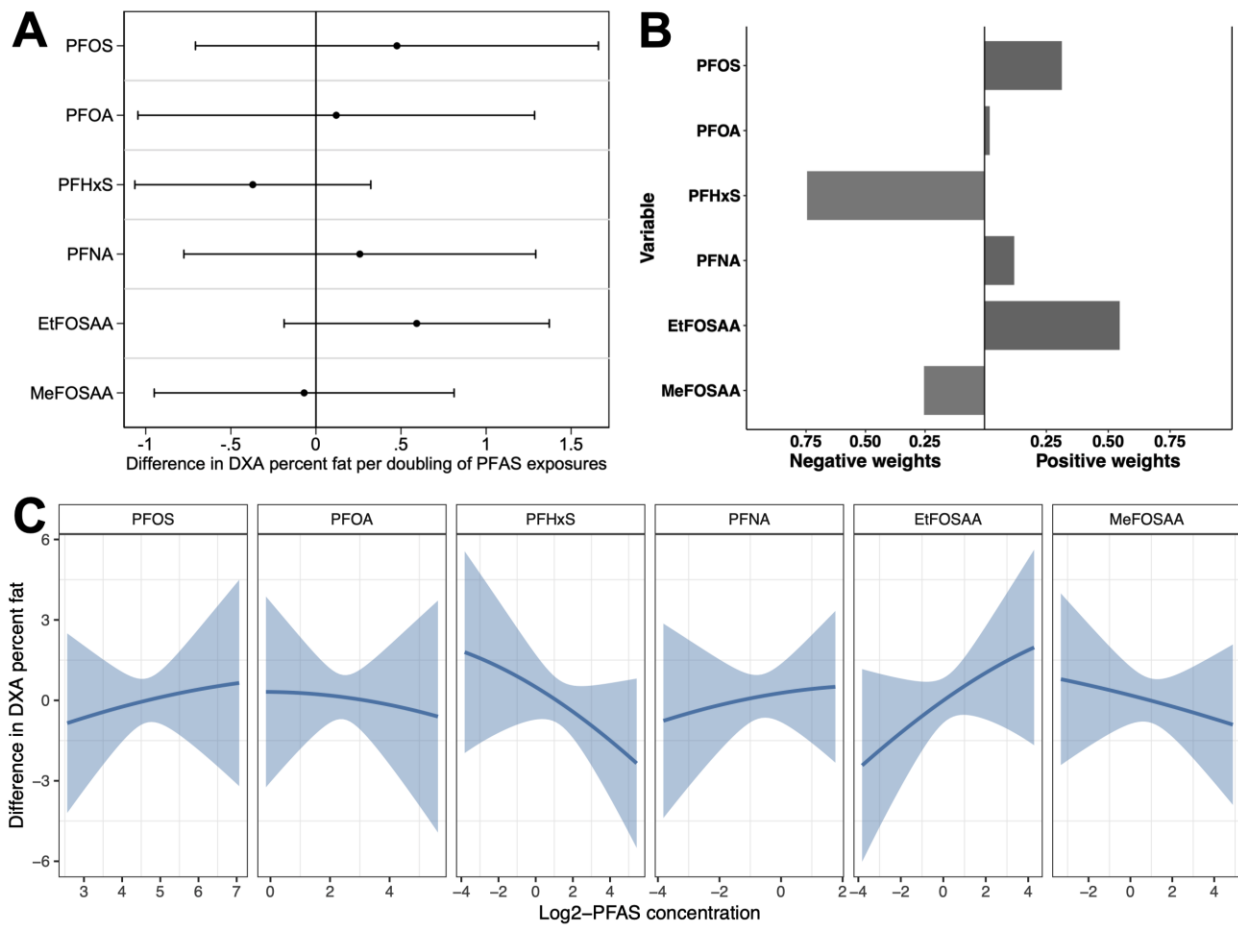
Figure S6. Overall effects of prenatal PFAS mixtures estimated by the differences in (A) DXA percentage fat; (B) DXA fat mass index (kg/m^2); (C) DXA trunk fat mass index (kg/m^2); and (D) DXA lean mass index (kg/m^2) in late adolescence when all PFAS are in their 10th to 90th percentile (with an interval of 10 percentile) as compared to when they are in their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).



Percentile values for log₂-transformed PFAS levels are provided in **Table S2**. Estimates are provided in **Table S6**. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; and DXA, dual-energy X-ray absorptiometry.

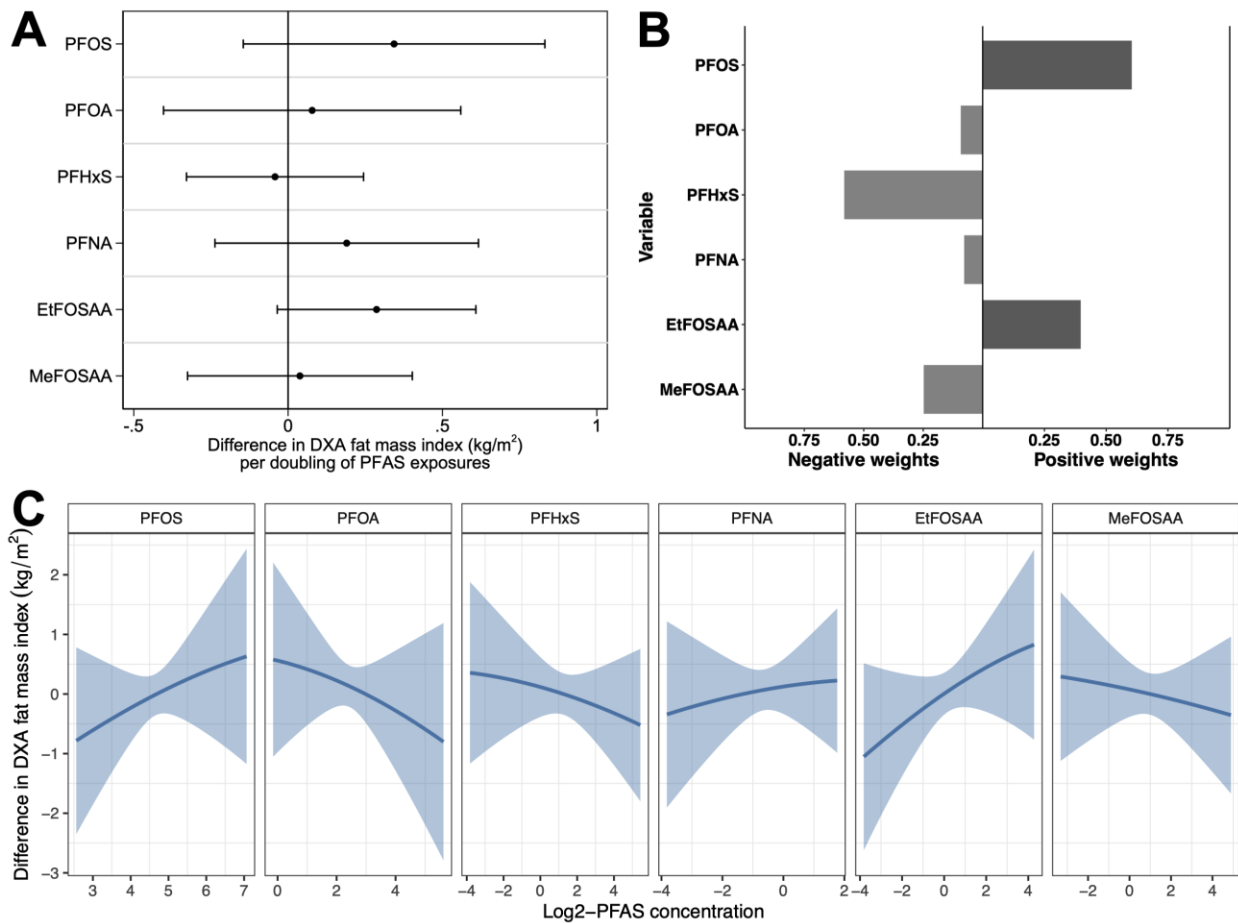
Figure S7. Multivariable-adjusted associations between individual prenatal PFAS and DXA percentage fat in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA percentage fat per doubling of PFAS levels (estimates are provided in **Table 3** [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA percentage fat in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in **Table S8**). Panel C shows the estimates and 95% credible intervals of PFAS with DXA percentage fat when all other PFAS are fixed at their 50th percentile.



Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and DXA, dual-energy X-ray absorptiometry.

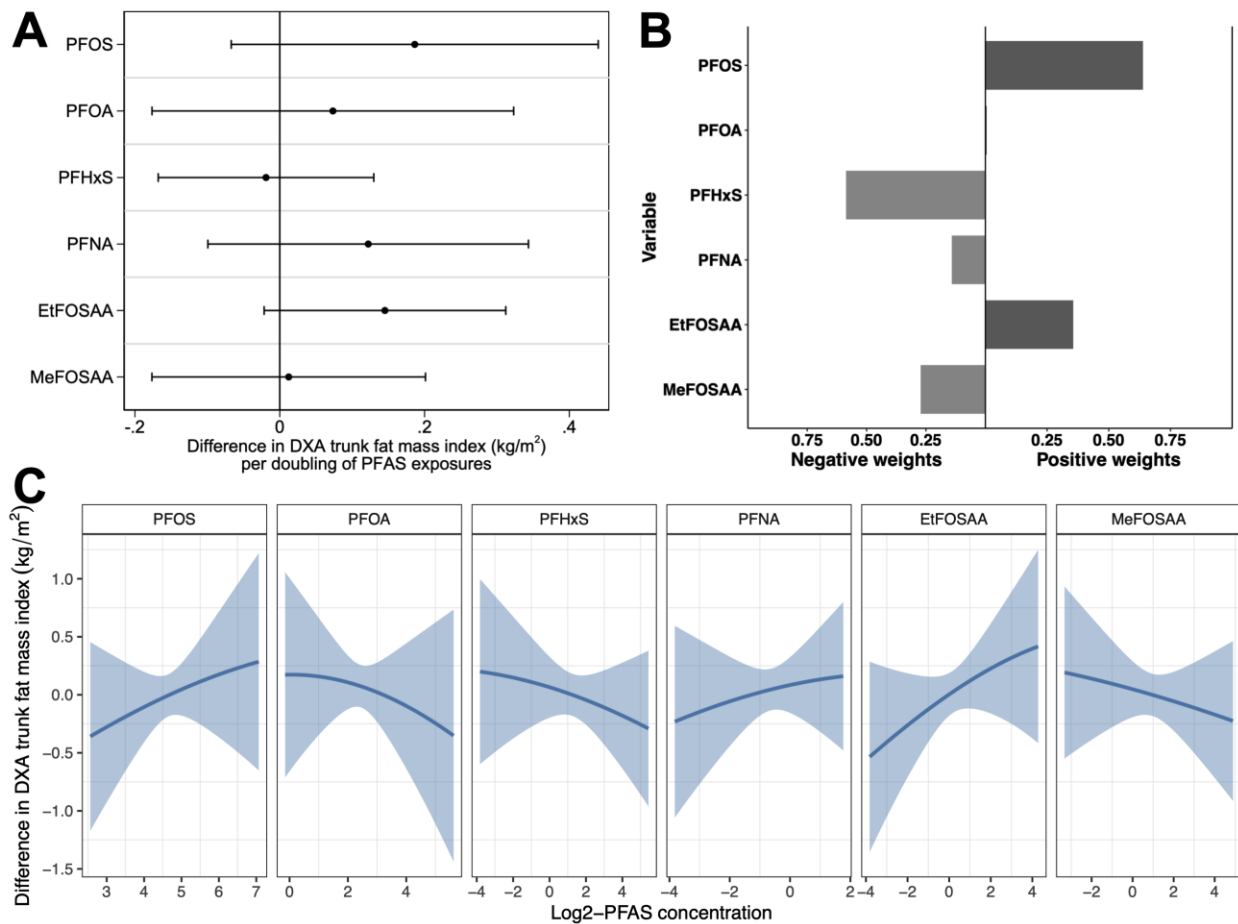
Figure S8. Multivariable-adjusted associations between individual prenatal PFAS and DXA fat mass index (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA fat mass index per doubling of PFAS levels (estimates are provided in **Table 3** [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA fat mass index in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in **Table S8**). Panel C shows the estimates and 95% credible intervals of PFAS with DXA fat mass index when all other PFAS are fixed at their 50th percentile.



Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and DXA, dual-energy X-ray absorptiometry.

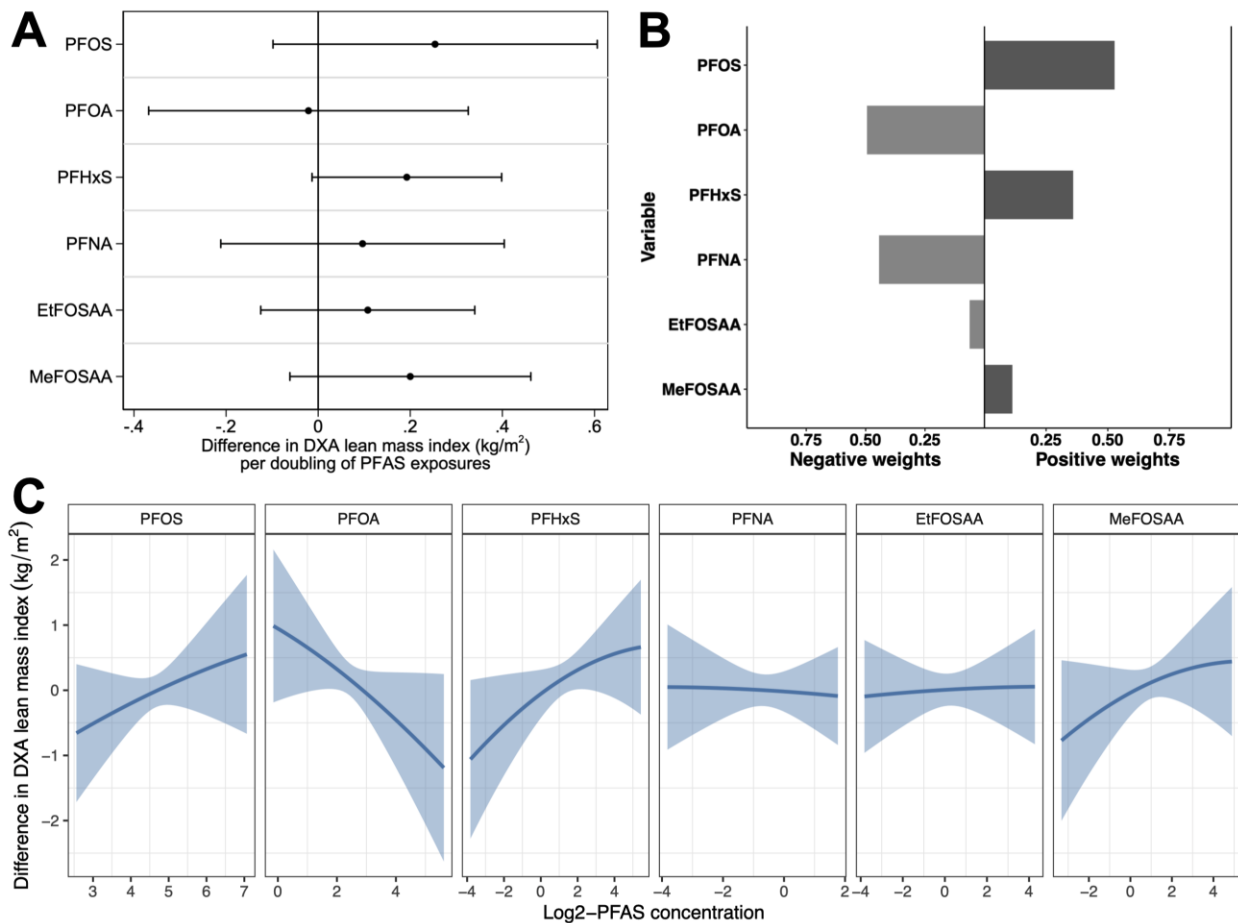
Figure S9. Multivariable-adjusted associations between individual prenatal PFAS and DXA trunk fat mass index (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA trunk fat mass index per doubling of PFAS levels (estimates are provided in **Table 3** [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA trunk fat mass index in the positive or negative direction (Positive and negative weights respectively add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; estimates are provided in **Table S8**). Panel C shows the estimates and 95% credible intervals of PFAS with DXA trunk fat mass index when all other PFAS are fixed at their 50th percentile.



Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and DXA, dual-energy X-ray absorptiometry.

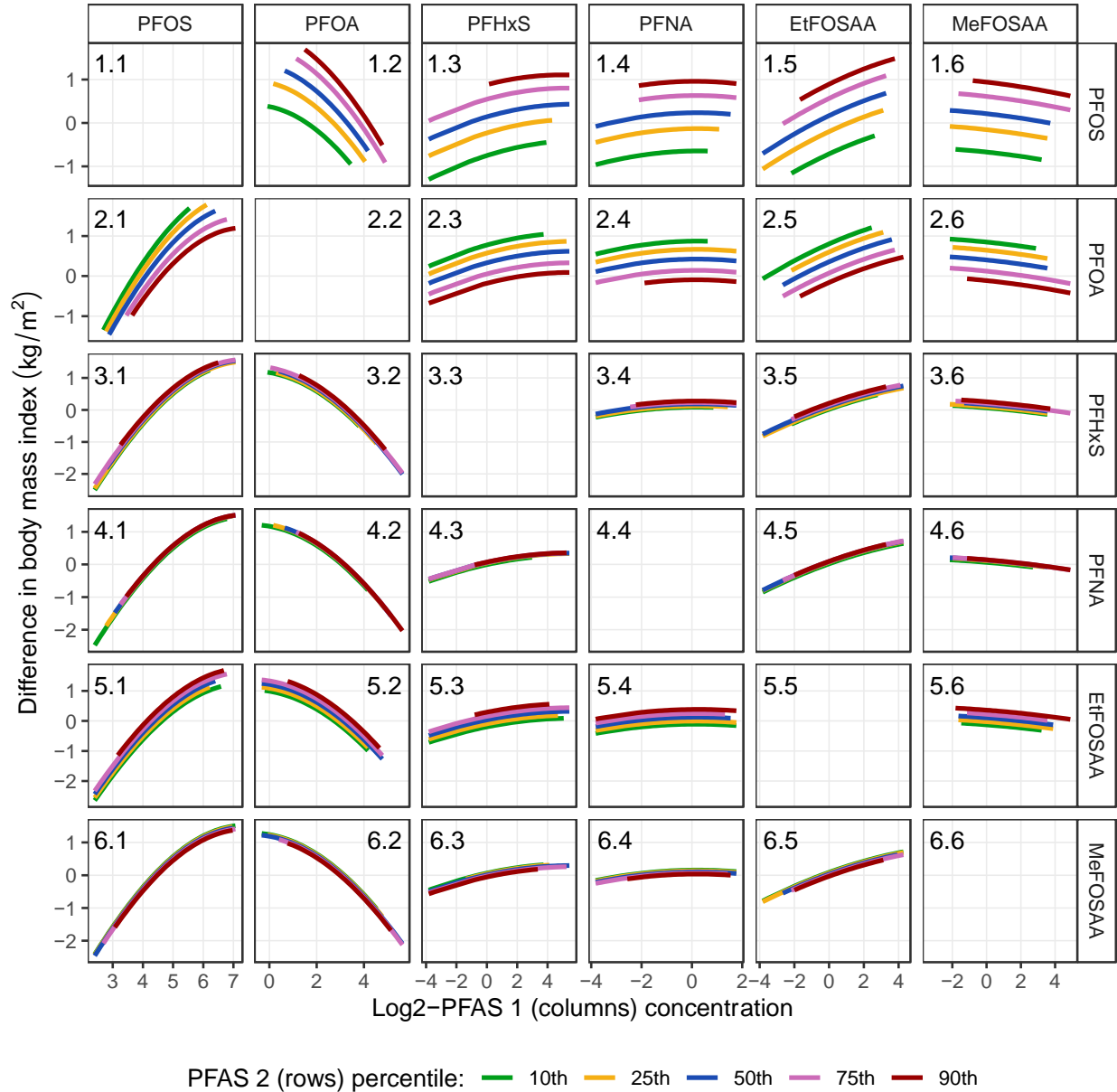
Figure S10. Multivariable-adjusted associations between individual prenatal PFAS and DXA lean mass index (kg/m^2) in late adolescence estimated using (A) linear regression, (B) quantile g-computation, and (C) Bayesian kernel machine regression ($n = 439$). Panel A shows the differences and 95% confidence intervals of DXA lean mass index per doubling of PFAS levels (estimates are provided in **Table 3** [Adjusted]). Panel B shows the weights for each PFAS that correspond to the proportion of the overall effect of all PFAS on DXA lean mass index in the positive or negative direction (positive and negative weights, respectively, add up to 1, representing the proportion of the overall effect and the relative importance of each mixture component within each direction; the shading of bars represents the overall effect size within each direction, with darker shades indicating a larger effect compared to lighter shades; estimates are provided in **Table S8**). Panel C shows the estimates and 95% credible intervals of PFAS with DXA lean mass index when all other PFAS are fixed at their 50th percentile.



Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and DXA, dual-energy X-ray absorptiometry

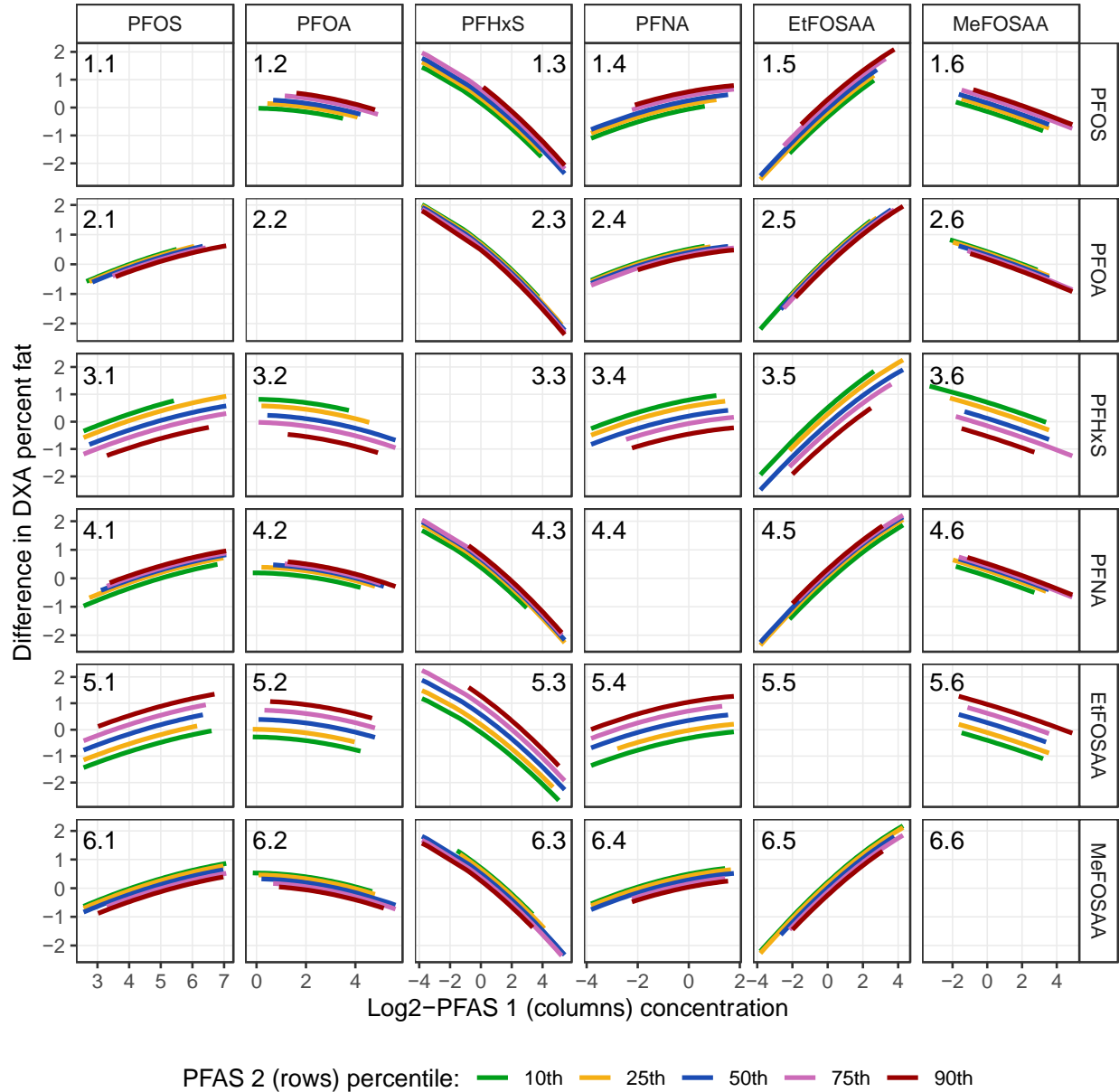
Figure S11. Associations between prenatal PFAS 1 concentrations (columns) and BMI (kg/m^2) in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 545$).



Percentile values for log₂-transformed PFAS levels are provided in **Table S2**. Estimates are provided in **Excel Table S2**. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy BMI, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; BMI, body mass index; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

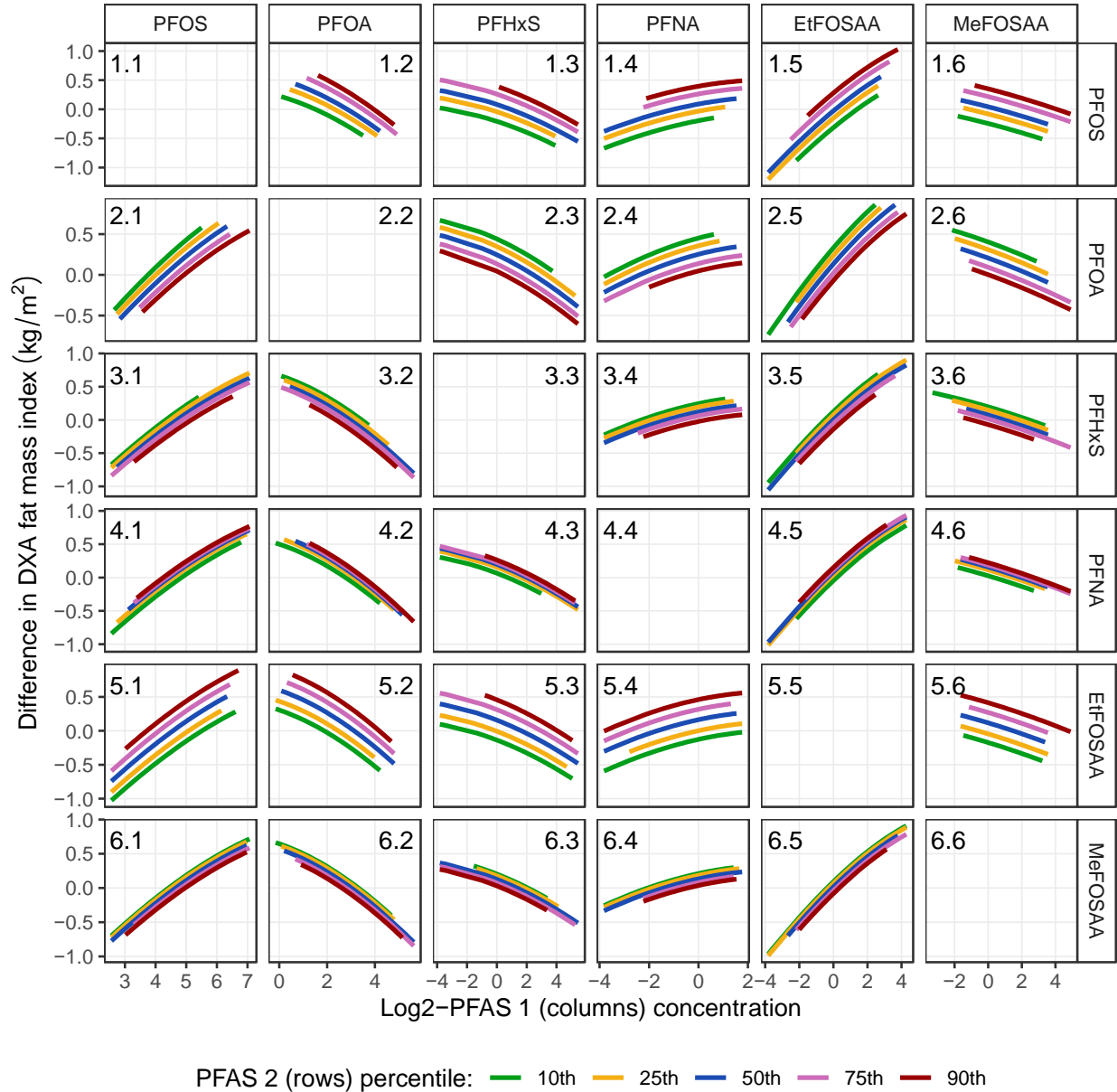
Figure S12. Associations between prenatal PFAS 1 concentrations (columns) and DXA percentage fat in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).



Percentile values for log₂-transformed PFAS levels are provided in **Table S2**. Estimates are provided in **Excel Table S3**. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; DXA, dual-energy X-ray absorptiometry; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

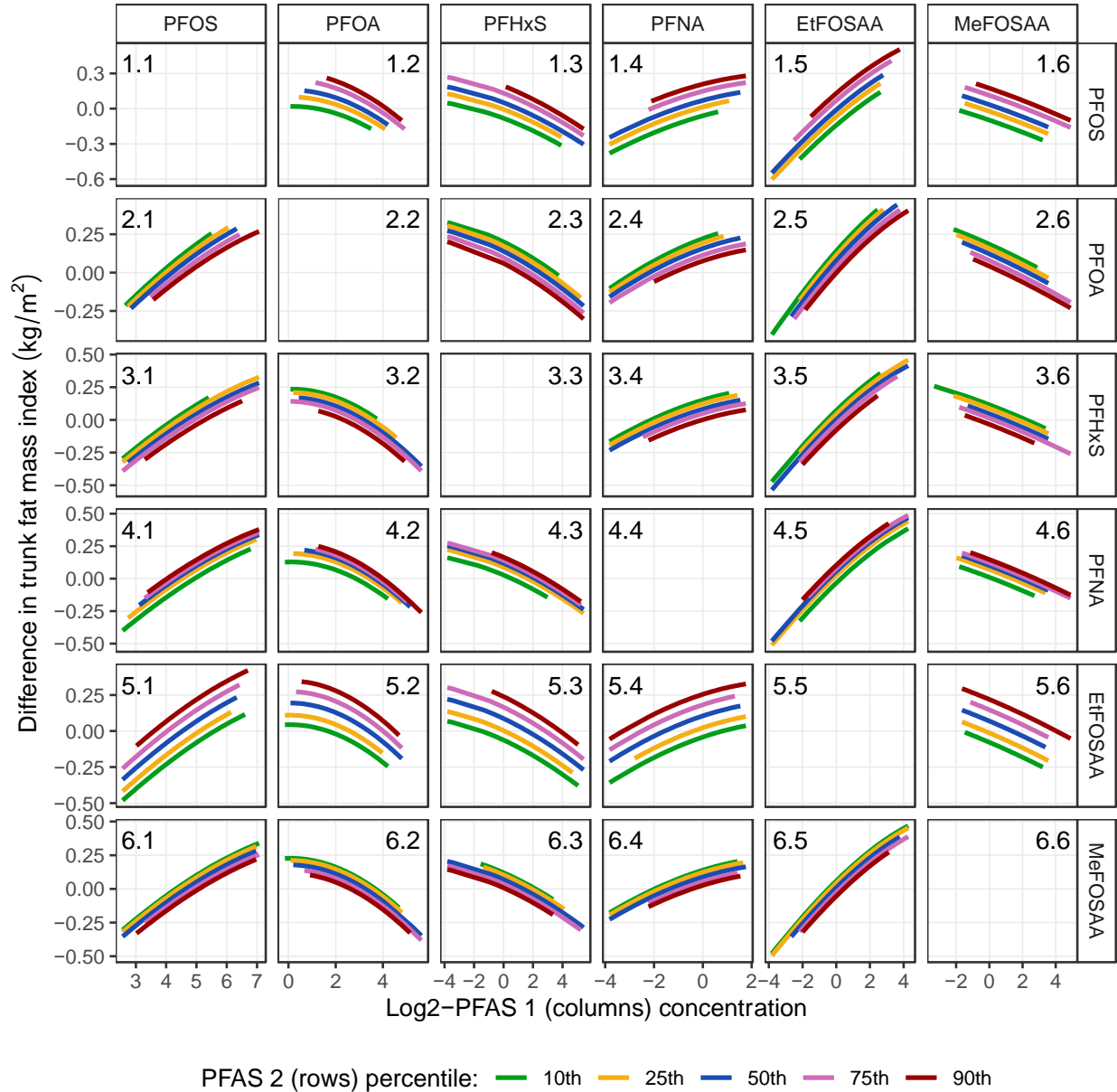
Figure S13. Associations between prenatal PFAS 1 concentrations (columns) and DXA fat mass index (kg/m^2) in late adolescence by levels (10^{th} , 25^{th} , 50^{th} , 75^{th} , and 90^{th} percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50^{th} percentile estimated using Bayesian kernel machine regression ($n = 439$).



Percentile values for log₂-transformed PFAS levels are provided in **Table S2**. Estimates are provided in **Excel Table S4**. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; DXA, dual-energy X-ray absorptiometry; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

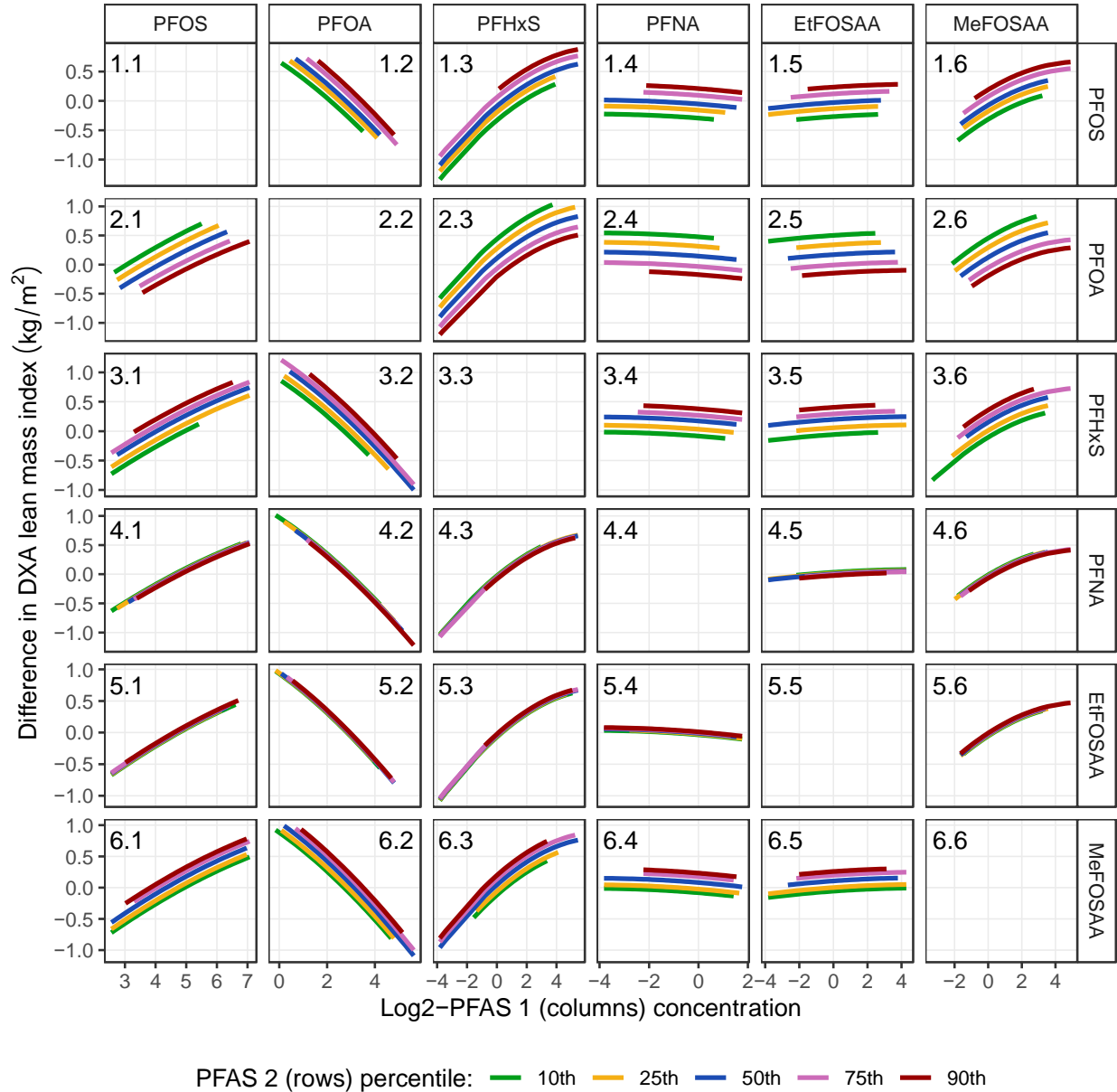
Figure S14. Associations between prenatal PFAS 1 concentrations (columns) and DXA trunk fat mass index (kg/m^2) in late adolescence by levels (10th, 25th, 50th, 75th, and 90th percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50th percentile estimated using Bayesian kernel machine regression ($n = 439$).



Percentile values for log₂-transformed PFAS levels are provided in **Table S2**. Estimates are provided in **Excel Table S5**. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; DXA, dual-energy X-ray absorptiometry; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

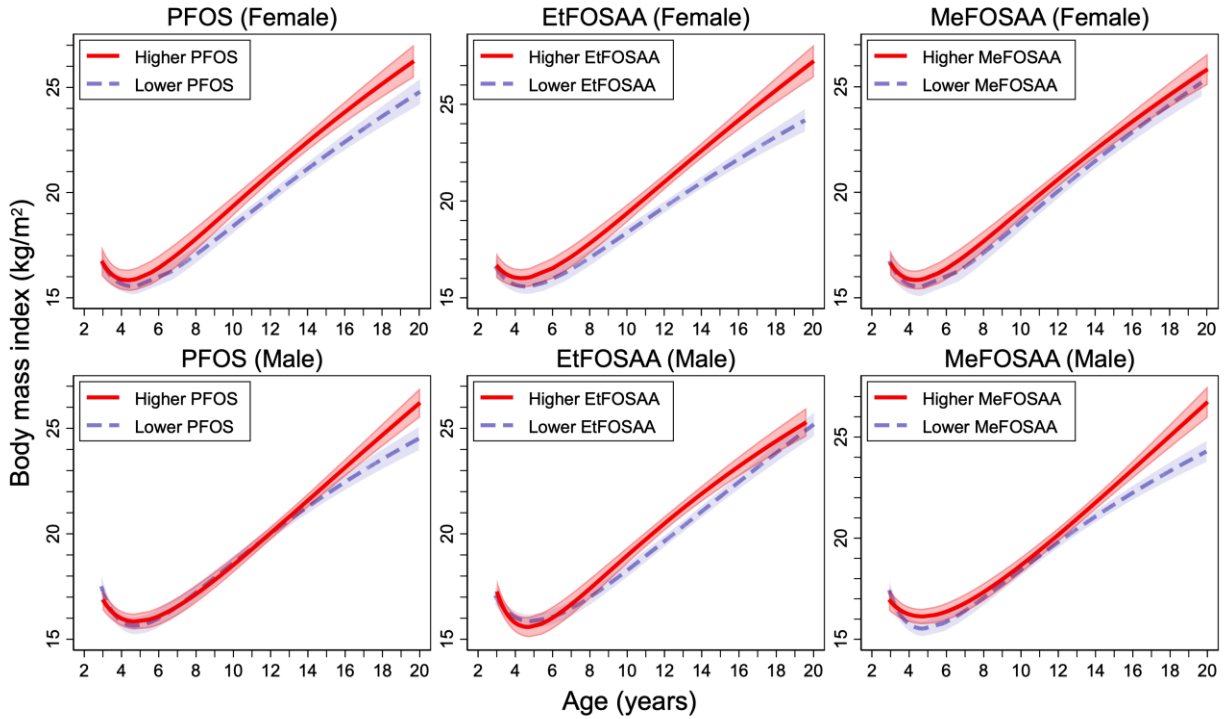
Figure S15. Associations between prenatal PFAS 1 concentrations (columns) and DXA lean mass index (kg/m^2) in late adolescence by levels (10^{th} , 25^{th} , 50^{th} , 75^{th} , and 90^{th} percentile) of prenatal PFAS 2 concentration (rows) when all other PFAS are fixed at their 50^{th} percentile estimated using Bayesian kernel machine regression ($n = 439$).



Percentile values for log₂-transformed PFAS levels are provided in **Table S2**. Estimates are provided in **Excel Table S6**. Models were adjusted for maternal age at enrollment, race and ethnicity, pre-pregnancy body mass index, educational level, marital status, parity, and pregnancy smoking status.

Abbreviations: PFAS indicates per- and polyfluoroalkyl substances; DXA, dual-energy X-ray absorptiometry; PFOS, perfluorooctane sulfonate; PFOA, perfluorooctanoate; PFHxS, perfluorohexane sulfonate; PFNA, perfluorononanoate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; and MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate.

Figure S16. Fractional polynomial prediction plots showing the association between age and body mass index across childhood and adolescence by prenatal PFOS, EtFOSAA, and MeFOSAA levels stratified by child sex (male [$n = 616$] vs. female [$n = 540$]). “Higher” was defined as PFAS levels above the population median, and “lower” was defined as PFAS levels below the population median. Median levels were 25.70 ng/mL for PFOS, 1.20 ng/mL for EtFOSAA, and 1.90 ng/mL for MeFOSAA.



Abbreviations: PFOS indicates perfluorooctane sulfonate; EtFOSAA, 2-(N-ethyl-perfluorooctane sulfonamido) acetate; MeFOSAA, 2-(N-methyl-perfluorooctane sulfonamido) acetate; and PFAS, per- and polyfluoroalkyl substances.