Supporting information
Investigation of the Associations between Serum Perfluorinated Chemicals and Adiponectin in a Young Hypertension Cohort in Taiwan

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Table S1. Spearman's correlation coefficient between serum PFCs (ng/mL). (n=287).

	PFOA	PFOS	PFNA	PFUA
PFOA	1			
PFOS	0.09	1		
PFNA	0.12*	0.29**	1	
PFUA	0.05	0.19**	0.62**	1

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table S2. Mean and standard error of adiponectin, glucose homeostasis, lipid profile and inflammatory marker across different categories of serum PFOA level in linear regression models.

	Log-Adiponectin (ng/ml)	Glucose (mg/dl)	Log-Insulin (pmol/L)	Log-HOMA-IR	HDL (mg/dl)	Log-TG (mg/dl)	Log-CRP (mg/L)
PFOA percentile %*							
Model 1							
< 50th	8.86 (0.09)	84.62 (0.54)	1.04 (0.08)	-0.54 (0.08)	49.32 (0.82)	4.39 (0.04)	1.63 (0.10)
50th-74th	9.06 (0.12)	84.03 (0.76)	0.88 (0.11)	-0.66 (0.12)	49.14 (1.15)	4.32 (0.06)	1.44 (0.13)
75th-89th	8.87 (0.16)	84.36 (0.98)	0.91 (0.14)	-0.63 (0.15)	49.50 (1.49)	4.25 (0.07)	1.42 (0.17)
≥ 90th	8.61 (0.20)	84.00 (1.25)	1.06 (0.18)	-0.53 (0.19)	48.74 (1.20)	4.14 (0.09)	1.25 (0.22)
P for trend	0.282	0.917	0.636	0.808	0.990	0.060	0.291
Model 2							
< 50th	8.82 (0.15)	85.02 (0.93)	0.94 (0.14)	-0.62 (0.14)	48.06 (1.35)	4.39 (0.07)	1.59 (0.17)
50th-74th	9.01 (0.16)	84.25 (0.95)	0.83 (0.14)	-0.74 (0.15)	47.74 (1.39)	4.32 (0.07)	1.38 (0.17)
75th-89th	8.80 (0.19)	84.42 (1.18)	0.85 (0.18)	-0.72 (0.18)	47.69 (1.72)	4.25 (0.09)	1.36 (0.21)
≥ 90th	8.59 (0.23)	83.81 (1.41)	0.97 (0.21)	-0.61 (0.22)	47.70 (2.05)	4.14 (0.11)	1.22 (0.25)
P for trend	0.307	0.741	0.838	0.832	0.937	0.061	0.308
Model 3							
< 50th	8.92 (0.14)	84.53 (0.90)	0.73 (0.11)	-0.84 (0.12)	49.31 (1.30)	4.33 (0.06)	1.38 (0.14)
50th-74th	8.98 (0.14)	84.49 (0.92)	0.84 (0.11)	-0.74 (0.12)	47.77 (1.32)	4.35 (0.06)	1.43 (0.14)
75th-89th	8.71 (0.18)	85.04 (1.14)	0.94 (0.14)	-0.62 (0.15)	47.18 (1.64)	4.31 (0.08)	1.48 (0.18)
≥ 90th	8.51 (0.21)	84.47 (1.35)	1.10 (0.17)	-0.48 (0.17)	47.01 (1.94)	4.23 (0.09)	1.41 (0.21)
P for trend	0.109	0.852	0.098	0.109	0.382	0.634	0.932

Model 1: adjusted for age, gender

Model 2: adjusted for age, gender, life style (smoking status, drinking status, household income)

Model 3: adjusted for age, gender, life style (smoking status, drinking status, household income) and measurement data (SBP, waist, HOMA-IR, total cholesterol, creatinine)

* The median and the range concentrations of the PFOA for the cut points used (< 50th, 50 – 74, 75 – 89 and >= 90th percentiles) were listed below: 0.75 (0.75-2.37) ng/ml, 3.86 (2.39-5.92) ng/ml, 7.89 (6.01-9.62) ng/ml, 11.54 (9.64-28.13) ng/ml, respectively

Table S3. Mean and standard error of adiponectin, glucose homeostasis, lipid profile and inflammatory marker across different categories of serum PFOS level in linear regression models.

	Log-Adiponectin (ng/ml)	Glucose (mg/dl)	Log-Insulin (pmol/L)	Log-HOMA-IR	HDL (mg/dl)	Log-TG (mg/dl)	Log-CRP (mg/L)
PFOS percentile % *							
Model 1							
< 50th	8.93 (0.09)	83.96 (0.56)	0.94 (0.08)	-0.64 (0.08)	48.34 (0.80)	4.34 (0.04)	1.48 (0.10)
50th-74th	8.80 (0.13)	85.49 (0.77)	0.99 (0.11)	-0.57 (0.12)	49.04 (1.10)	4.34 (0.06)	1.54 (0.14)
75th-89th	8.89 (0.16)	84.25 (0.97)	0.94 (0.14)	-0.64 (0.15)	49.23 (1.39)	4.32 (0.07)	1.55 (0.17)
≥ 90th	8.67 (0.20)	84.68 (1.22)	1.33 (0.18)	-0.24 (0.18)	48.82 (1.75)	4.38 (0.09)	1.72 (0.22)
P for trend	0.617	0.453	0.255	0.266	0.932	0.965	0.794
Model 2							
< 50th	8.92 (0.14)	84.26 (0.85)	0.85 (0.13)	-0.73 (0.13)	47.55 (1.24)	4.32 (0.06)	1.39 (0.15)
50th-74th	8.78 (0.17)	85.70 (1.06)	0.89 (0.16)	-0.67 (0.16)	48.12 (1.56)	4.30 (0.08)	1.43 (0.19)
75th-89th	8.89 (0.19)	84.04 (1.17)	0.84 (0.18)	-0.73 (0.18)	48.44 (1.72)	4.30 (0.09)	1.47 (0.21)
≥ 90th	8.65 (0.23)	84.55 (1.39)	1.24 (0.21)	-0.34 (0.22)	47.96 (2.04)	4.35 (0.11)	1.62 (0.25)
P for trend	0.581	0.424	0.258	0.278	0.948	0.975	0.798
Model 3							
< 50th	8.90 (0.13)	84.45 (0.82)	0.82 (0.10)	-0.75 (0.11)	47.69 (1.19)	4.34 (0.05)	1.41 (0.13)
50th-74th	8.79 (0.16)	85.85 (1.03)	0.83 (0.13)	-0.72 (0.13)	48.42 (1.48)	4.32 (0.07)	1.41 (0.16)
75th-89th	8.87 (0.18)	84.14 (1.12)	0.83 (0.14)	-0.74 (0.15)	48.52 (1.63)	4.31 (0.07)	1.48 (0.17)
≥ 90th	8.81 (0.21)	83.97 (1.34)	0.99 (0.17)	-0.59 (0.17)	49.33 (1.95)	4.23 (0.09)	1.36 (0.21)
P for trend	0.889	0.852	0.328	0.828	0.504	0.838	0.957

Model 1: adjusted for age, gender

Model 2: adjusted for age, gender, life style (smoking status, drinking status, household income)

Model 3: adjusted for age, gender, life style (smoking status, drinking status, household income) and measurement data (SBP, waist, HOMA-IR, total cholesterol, creatinine)

* The median and the range concentrations of the PFOS for the cut points used (< 50th, 50 – 74, 75 – 89 and >= 90th percentiles) were listed below: 5.87 (0.11-8.92) ng/ml, 11.75 (8.95-14.35) ng/ml, 16.99 (14.92-19.14) ng/ml, 25.03 (19.98-67.26) ng/ml, respectively.

Table S4. Mean and standard error of adiponectin, glucose homeostasis, lipid profile and inflammatory marker across different categories of serum PFUA level in linear regression models.

	Log-Adiponectin (ng/ml)	Glucose (mg/dl)	Log-Insulin (pmol/L)	Log-HOMA-IR	HDL (mg/dl)	Log-TG (mg/dl)	Log-CRP (mg/L)
PFUA percentile % *							
Model 1							
< 50th	8.82 (0.09)	84.60 (0.54)	0.99 (0.08)	-0.58 (0.08)	48.20 (0.77)	4.31 (0.04)	1.60 (0.10)
50th-74th	8.83 (0.12)	83.86 (0.76)	0.97 (0.11)	-0.61 (0.120	49.19 (1.08)	4.34 (0.06)	1.44 (0.13)
75th-89th	9.07 (0.16)	84.50 (1.00)	1.05 (0.15)	-0.52 (0.15)	50.61 (1.42)	4.42 (0.07)	1.45 (0.18)
≥ 90th	8.86 (0.19)	85.20 (1.20)	0.98 (0.18)	-0.59 (0.18)	47.32 (1.70)	4.39 (0.09)	1.54 (0.21)
P for trend	0.561	0.782	0.975	0.974	0.381	0.51	0.73
Model 2							
< 50th	8.81 (0.14)	84.70 (0.87)	0.89 (0.13)	-0.68 (0.13)	47.34 (1.25)	4.28 (0.07)	1.50 (0.16)
50th-74th	8.83 (0.16)	83.90 (1.01)	0.87 (0.15)	-0.71 (0.16)	48.35 (1.46)	4.30 (0.08)	1.33 (0.18)
75th-89th	9.10 (0.20)	84.64 (1.21)	0.94 (0.18)	-0.63 (0.19)	49.79 (1.75)	4.41 (0.09)	1.36 (0.22)
≥ 90th	8.84 (0.22)	83.94 (1.38)	0.88 (0.21)	-0.68 (0.21)	46.31 (2.00)	4.37 (0.10)	1.44 (0.25)
P for trend	0.472	0.814	0.984	0.981	0.352	0.469	0.717
Model 3							
< 50th	8.80 (0.13)	84.94 (0.84)	0.88 (0.11)	-0.69 (0.11)	47.43 (1.19)	4.32 (0.05)	1.55 (0.13)
50th-74th	8.85 (0.15)	83.87 (0.97)	0.77 (0.12)	-0.81 (0.13)	48.92 (1.40)	4.28 (0.06)	1.25 (0.15)
75th-89th	9.12 (0.18)	84.64 (1.16)	0.87 (0.15)	-0.70 (0.15)	50.23 (1.66)	4.39 (0.08)	1.30 (0.18)
≥ 90th	8.87 (0.21)	84.64 (1.32)	0.79 (0.17)	-0.78 (0.17)	46.77 (1.89)	4.34 (0.09)	1.33 (0.20)
P for trend	0.308	0.692	0.766	0.729	0.211	0.552	0.126

Model 1: adjusted for age, gender

Model 2: adjusted for age, gender, life style (smoking status, drinking status, household income)

Model 3: adjusted for age, gender, life style (smoking status, drinking status, household income) and measurement data (SBP, waist, HOMA-IR, total cholesterol, creatinine)

* The median and the range concentrations of the PFUA for the cut points used (< 50th, 50 – 74, 75 – 89 and >= 90th percentiles) were listed below: 1.50 (1.50-7.09) ng/ml, 10.70 (7.11-13.97) ng/ml,17.52 (14.05-22.45) ng/ml, 34.02 (22.94-85.46) ng/ml, respectively.

Table S5. Mean and standard error of adiponectin, glucose homeostasis, lipid profile and inflammatory marker across different categories of serum total PFCs (summing the four individual PFC) level in linear regression models.

	Log-Adiponectin (ng/ml)	Glucose (mg/dl)	Log-Insulin (pmol/L)	Log-HOMA-IR	HDL (mg/dl)	Log-TG (mg/dl)	Log-CRP (mg/L)
Total PFCs percentile % *							
Model 1							
< 50th	8.78 (0.09)	84.72 (0.55)	1.09 (0.08)	-0.48 (0.08)	47.94 (0.77)	4.36 (0.04)	1.64 (0.10)
50th-74th	8.94 (0.12)	84.06 (0.76)	0.79 (0.11)	-0.78 (0.11)	49.99 (1.08)	4.32 (0.06)	1.51 (0.13)
75th-89th	8.78 (0.16)	84.57 (1.00)	1.03 (0.15)	-0.55 (0.15)	50.42 (1.41)	4.29 (0.07)	1.23 (0.17)
≥ 90th	9.20 (0.19)	84.07 (1.20)	0.95 (0.18)	-0.63 (0.18)	46.87 (1.70)	4.38 (0.09)	1.49 (0.21)
P for trend	0.203	0.891	0.175	0.178	0.170	0.782	0.230
Model 2							
< 50th	8.76 (0.14)	84.92 (0.88)	1.01 (0.13)	-0.56 (0.14)	47.11 (1.27)	4.33 (0.07)	1.49 (0.15)
50th-74th	8.92 (0.16)	84.20 (0.98)	0.71 (0.15)	-0.86 (0.15)	49.22 (1.42)	4.29 (0.07)	1.63 (0.18)
75th-89th	8.81 (0.21)	84.29 (1.26)	0.92 (0.19)	-0.66 (0.19)	49.69 (1.82)	4.25 (0.10)	1.16 (0.21)
≥ 90th	9.15 (0.22)	83.88 (1.35)	0.88 (0.20)	-0.70 (0.21)	45.93 (1.95)	4.36 (0.10)	1.11 (0.25)
P for trend	0.275	0.782	0.211	0.212	0.147	0.981	0.736
Model 3							
< 50th	8.79 (0.13)	84.95 (0.85)	0.93 (0.11)	-0.64 (0.11)	47.57 (1.21)	4.33 (0.06)	1.49 (0.13)
50th-74th	8.88 (0.15)	84.36 (0.94)	0.69 (0.12)	-0.88 (0.12)	49.38 (1.36)	4.30 (0.06)	1.42 (0.15)
75th-89th	8.78 (0.19)	84.63 (1.21)	0.94 (0.15)	-0.63 (0.16)	49.60 (1.74)	4.27 (0.08)	1.13 (0.19)
≥ 90th	9.16 (0.20)	83.88 (1.30)	0.83 (0.16)	-0.75 (0.17)	46.18 (1.86)	4.36 (0.09)	1.35 (0.20)
P for trend	0.299	0.813	0.168	0.168	0.504	0.754	0.178

Model 1: adjusted for age, gender

Model 2: adjusted for age, gender, life style (smoking status, drinking status, household income)

Model 3: adjusted for age, gender, life style (smoking status, drinking status, household income) and measurement data (SBP, waist, HOMA-IR, total cholesterol, creatinine)

* The median and the range concentrations of the total PFCs for the cut points used (< 50th, 50 – 74, 75 – 89 and >= 90th percentiles) were listed below: 15.08 (2.74-24.56) ng/ml, 29.81 (24.96-36.24) ng/ml, 42.13 (36.28-51.94) ng/ml, 65.16 (52.93-97.99) ng/ml, respectively

Table S6. Unadjusted mean and standard error of natural log adiponectin (ng/ml) across quartiles of body mass index in different subpopulations of the sample subjects

	No.	< 25th	25th-49th	50th-75th	≥ 75th	P for trend
Total	287	9.39 (0.12)	9.10 (0.12)	8.77 (0.12)	8.31 (0.12)	<0.001
Age, years						
12-19	78	9.16 (0.23)	8.82 (0.22)	8.80 (0.23)	7.88 (0.26)	0.004
Males	28	9.54 (0.39)	8.95 (0.36)	9.10 (0.43)	7.55 (0.30)	0.002
Females	50	8.99 (0.28)	8.76 (0.27)	8.70 (0.27)	8.42 (0.43)	0.718
20-30	209	9.47(0.13)	9.22 (0.14)	8.76 (0.13)	8.44 (0.13)	<0.001
Males	93	9.13 (0.26)	9.11 (0.22)	8.69 (0.18)	8.41 (0.16)	0.027
Females	116	9.59 (0.16)	9.29 (0.18)	8.83 (0.20)	8.49 (0.21)	<0.001
Sex						
Males	121	9.26 (0.22)	9.07 (1.91)	8.75 (0.17)	9.21 (0.14)	<0.001
Females	166	9.43 (0.14)	9.12 (0.15)	8.78 (0.16)	8.47 (0.19)	<0.001