Supplemental Material

Table 1. Correlation Matrix of Three Exposure Metrics

	2 week	1 month	Lifetime
2 week	1	0.17 (0.07)	0.02 (0.82)
1 month		1	-0.06 (0.48)
lifetime			1

Data presented as: r(*p*-value).

Table 2. Multivariable Exposure Models[a] for Predictors of 8-iso-PGF(pg/ml) in healthy young adults.

	2 week	1 month	lifetime	lifetime residual
O_3 measure	0.035 (0.015)*	0.031 (0.013)*	0.024 (0.008)*	0.025 (0.008)*
FRAP,umol/ml	0.0001 (0.0004)	-0.0001 (0.0004)	0.0001 (0.0003)	0.0001 (0.0004)
Sex[b]	0.181 (0.284)	0.259 (0.213)	0.240 (0.209)	0.244 (0.209)
Ethnicity[c]				
Asian	-0.022 (0.291)	-0.192 (0.291)	0.014 (0.286)	-0.008 (0.284)
Other	-0.263 (0.289)	-0.322 (0.287)	-0.209 (0.284)	-0.216 (0.203)
BMI	0.015 (0.028)	0.008 (0.028)	0.013 (0.027)	-0.012 (0.027)

[a]Regression models: log(8-Iso-PGF) = O_3 estimate + sex + ethnicity + FRAP; data presented as: coefficient (standard error). Units for parameter estimates for O_3: 2 week, 1 month = ppb 8hr max; ppb-hours (lifetime exposure).
[b]Gender: baseline=male
[c]Ethnicity: baseline=Caucasian
* $p<0.05$

Table 3. Regression Model of Recent Exposure on Lifetime Exposure

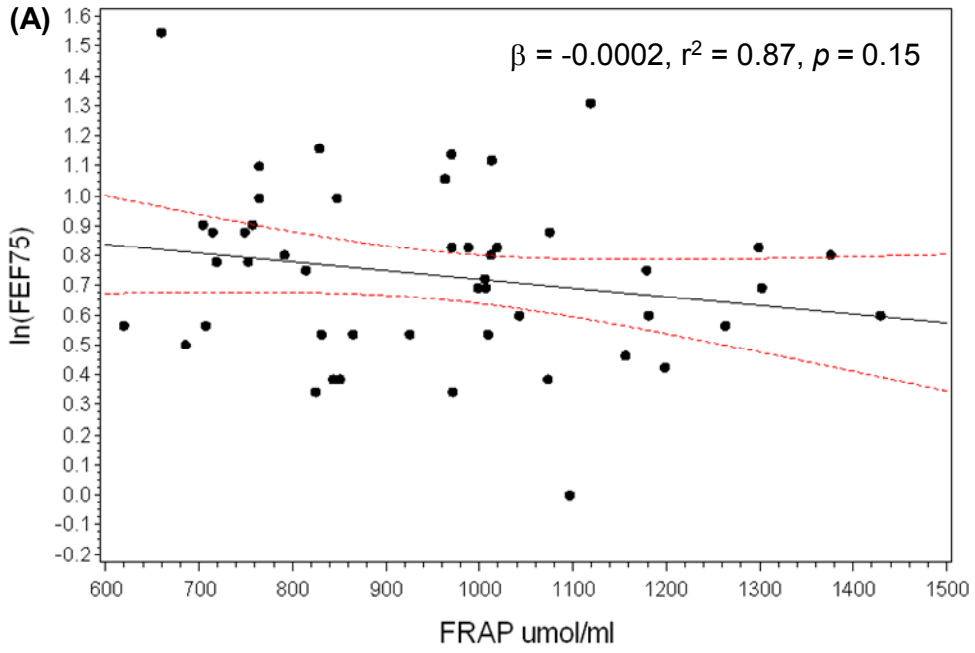
	Parameter Estimate	Standard Error	*p*-value
2 week	0.051	0.146	0.73
1 month	-0.100	0.133	0.45

Table 4. Correlations for Exposure Estimates for O_3, PM_{10}, and NO_2.

	O_3	PM_{10} (before 1987)	PM_{10} (after 1987)	NO_2
O_3				
PM_{10} (before 1987)	0.66*			
PM_{10} (after 1987)	0.80*	0.87*		
NO_2	0.51*	0.85*	0.83*	

*p-value <0.0001

Figure 1. Plot of FRAP levels and lung function, ln(FEF_{75}) in (A) Females and (B) Males. Solid line = best fit line; dotted lines = 95% confidence intervals; FEF_{75} = average flow rate of the forced expiratory volume at 75% of the forced vital capacity. A detailed description of methods and results of all lung function measurements has been described previously (Tager *et al.* 2005). This multivariable model includes height^2, weight, ethnicity, and estimated lifetime exposure to air pollutants (O_3, PM_{10}, NO_2), as previously determined, and FRAP. The overall r^2 value of the entire model is presented, along with the regression coefficient for FRAP. It can be interpreted as the change in FEF_{75} (m/s) per unit change in FRAP (µmol/ml). Additional analysis of the FEF_{75} in females, removing the single outlier did not significantly change the strength of associations.



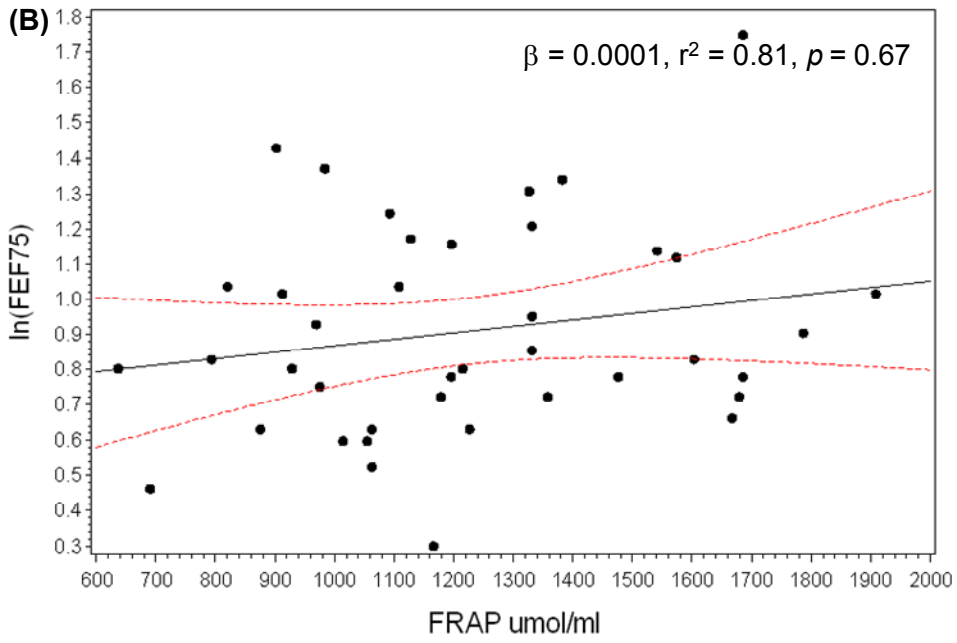


Figure 2. Plot of ln(8-iso-PGF) concentrations and lung function, ln(FEF_{75}) in a) Females and b) Males. Solid line = best fit line; dotted lines = 95% confidence intervals. This multivariable model includes height^2, weight, ethnicity, and estimated lifetime exposure to air pollutants (O_3, PM_{10}, NO_2), as previously determined, and ln(8-iso-PGF). The overall r^2 model and the regression coefficient for 8-iso-PGF is presented here and can be interpreted as the change in FEF_{75} (m/s) per unit change in ln (8-iso-PGF) (pg/ml).