Association of PNC, BC, and PM$_{2.5}$ Measured at a Central Monitoring Site with Blood Pressure in a Predominantly Near Highway Population

Table S1. Correlation matrix of 24-h PNC, PM2.5, BC pollutant, temperature, and quadratic-centering transformed temperature measure ($n = 331$ at both visits).

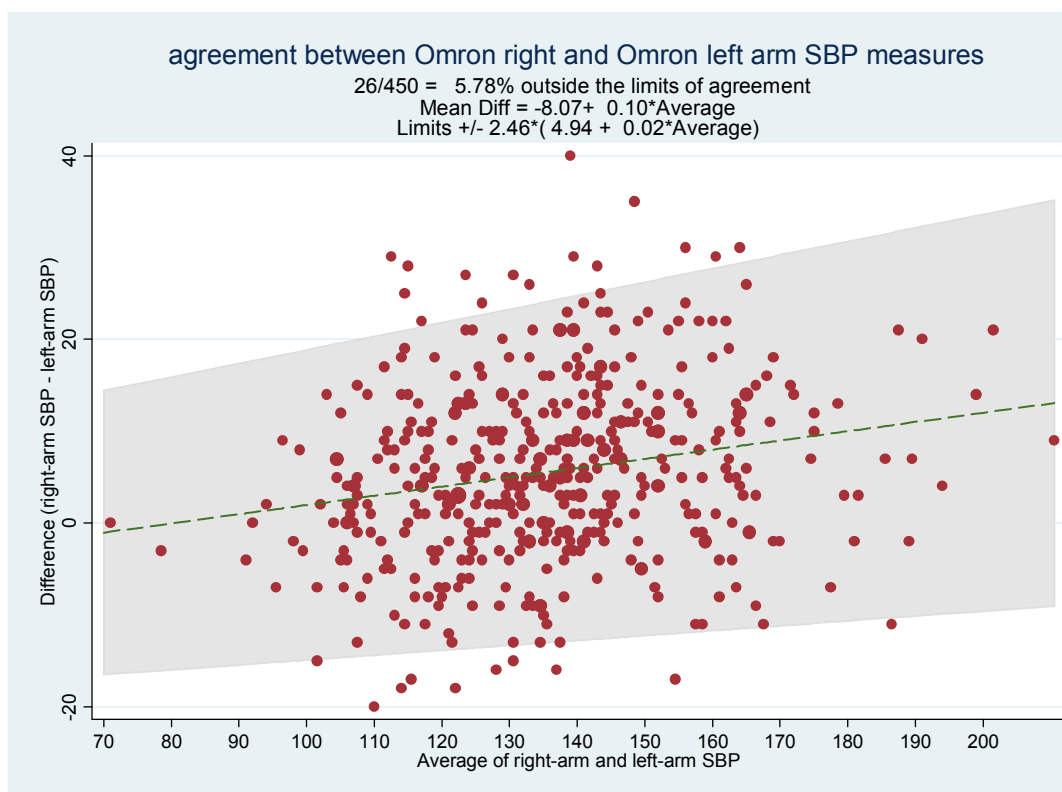| Exposure Variables	24-h PNC	24-h PM$_{2.5}$	24-h BC	24-h Temperature	Quadratic-Centering Transformed Temperature
PNC	1.0000				
PM$_{2.5}$	−0.0136	1.0000			
BC	0.3002	0.7951	1.0000		
24-h Temperature	−0.7547	0.0305	−0.1574	1.0000	
Quadratic-Centering Transformed Temperature	−0.1570	0.2627	0.1336	0.0252	1.0000

Figure S1. Bland-Altman Limits of Agreement analysis for the agreements between Omron right and left arm SBP measures.
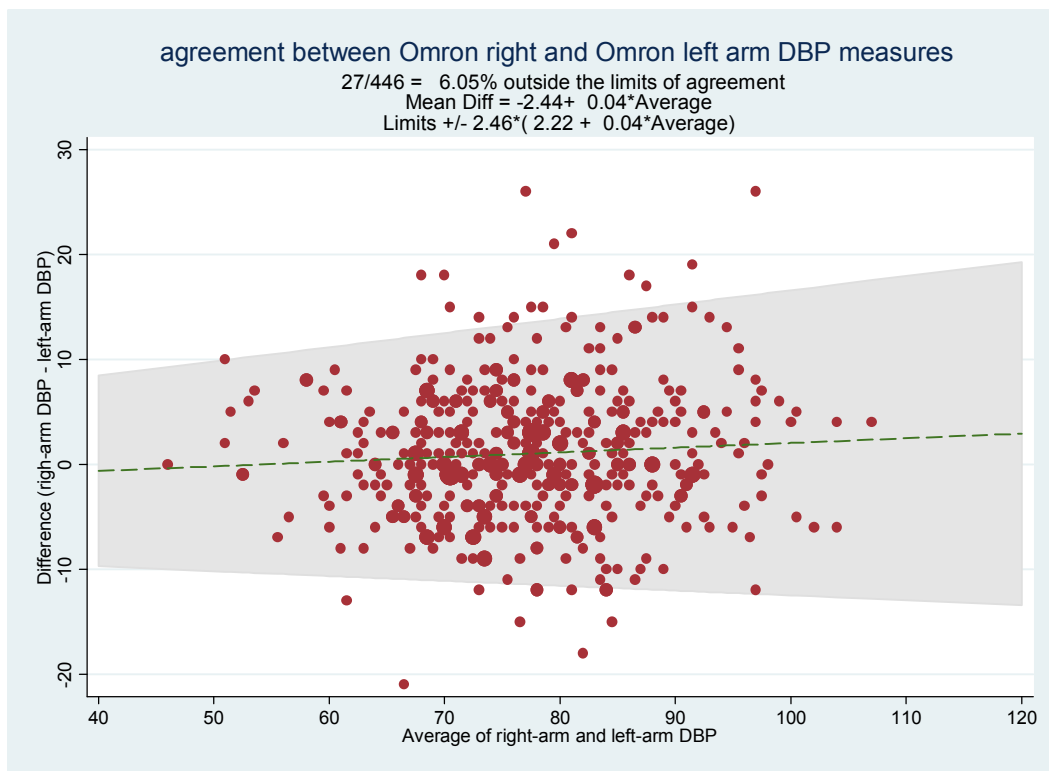
Figure S2. Bland-Altman Limits of Agreement analysis for the agreements between Omron right and left arm DBP measures.

Tables S2. Sensitivity analysis (number of observations = 302 in 190 people) using natural log of BP variables as the dependent variables.

Air Pollutant	SBP			DBP			PP		
	R	Robust SE	*p*	R	Robust SE	*p*	R	Robust SE	*p*
24 h PNC (10,000 particles/cm³)	0.018	0.013	0.18	0.028	0.028	0.05	0.0000004	0.004	0.85
24 h PM2.5 (ug/m3)	−0.0016	0.0012	0.18	−0.0021	0.0015	0.15	−0.001	0.0021	0.62
24 h BC (µg/m³)	−0.01	0.02	0.51	-0.02	0.02	0.37	−0.001	0.03	0.97

Notes: Covariates in the model: Temperature (quadratic term of the centering temperature variable), random/ convenience sample, highway proximity, age, gender, race, obesity status, hypertension medication use, smoking status, education status, seasonal variation (sin and cos), weekday or weekends, and clinic date. Beta coefficient (R) for each pollutant can be interpreted as % change per unit increase in the pollutant concentration as indicated in the table. ***** $p < 0.05$; ****** $p < 0.01$.

Tables S3. Assessment of potential confounding by temperature in our PNC, PM2.5, or BC models.

Air Pollutant	Model	With Temperature Covariate		Without Temperature Covariate		% Change in R
		R	***p***	**R**	***p***	
24 h PNC (10,000 particles/cm^3)	SBP	2.20	0.226	2.24	0.213	2%
	DBP	2.41	0.030 *	2.32	0.038 *	−4%
	PP	−0.158	0.906	0.001	0.994	−94%
24 h PM2.5 (ug/m3)	SBP	−0.211	0.195	−0.315	0.039 *	49%
	DBP	−0.143	0.213	−0.172	0.109	21%
	PP	−0.063	0.583	−0.138	0.206	121%
24 h BC (µg/m^3)	SBP	−1.333	0.584	−2.364	0.321	−197%
	DBP	−1.257	0.458	−1.594	0.342	27%
	PP	−0.033	0.985	−0.745	0.668	2160%

Notes: Other covariates in the model: random/convenience sample, highway proximity, age, gender, race, obesity status, hypertension medication use, smoking status, education status, seasonal variation (sin and cos), weekday or weekends, and clinic date. * $p < 0.05$.

Tables S4. Sensitivity analysis using different arm BP measurements (number of observations = 300 in 190 people).

	(a) First Right-arm PNC Model								
	SBP			**DBP**			**PP**		
	R	**Robust SE**	***p***	**R**	**Robust SE**	***p***	**R**	**Robust SE**	***p***
24 h PNC (10,000 particles/cm^3)	3.20	2.15	0.14	2.45	1.34	0.07	−1.58	1.34	0.91
PM$_{2.5}$ (ug/m^3)	−0.30	0.22	0.17	−0.14	0.16	0.38	−0.10	0.12	0.40
BC (ug/m^3)	−6.51	2.43	0.10	−2.38	1.57	0.13	−2.88	1.52	0.60
	(b) Repeated Right Arm PNC Model								
	SBP			**DBP**			**PP**		
	R	**Robust SE**	***p***	**R**	**Robust SE**	***p***	**R**	**Robust SE**	***p***
24 h PNC (10,000 particles/cm^3)	4.05	2.07	0.05	2.33	1.34	0.08	−0.16	1.34	0.91
24 h PM$_{2.5}$ (ug/m^3)	−0.28	0.22	0.19	−0.24	0.15	0.12	−0.10	0.12	0.40
24 h BC (ug/m^3)	−1.88	3.51	0.59	−2.57	2.29	0.26	−2.88	1.52	0.06

Table S4. *Cont.*

	SBP			DBP			PP		
(c) Left-arm Only PNC Model									
	R	**Robust SE**	***p***	**R**	**Robust SE**	***p***	**R**	**Robust SE**	***p***
24 h PNC (10,000 particles/cm^3)	1.23	1.81	0.50	2.26	1.21	0.06	1.00	1.36	0.46
24 h PM$_{2.5}$ (ug/m^3)	−0.08	0.16	0.63	−0.08	0.12	0.53	0.01	0.12	0.95
24 h BC (ug/m^3)	1.41	2.34	0.55	−0.09	1.77	0.96	1.71	2.02	0.40

Notes: Covariates in the model: Temperature (quadratic term of the centering temperature variable), random/ convenience sample, highway proximity, age, gender, race, obesity status, hypertension medication use, smoking status, education status, seasonal variation (sin and cos), weekday or weekends, and clinic date.