eTABLE 1. Summary Statistics of Air Pollution and Meteorological Data among Six Townships[a] during the Study Period[b].

	Observed days	Mean (SD)	Minimum	Maximum	IQR
PM_{10} (μg/m^3), 24-h average					
Renai	224	41.8 (18.8)	14.0	108.0	26.2
Sinjhuang	61	51.1 (27.4)	14.6	138.9	42.3
Nantou	817	60.2 (30.2)	6.1	208.7	41.5
Puli	757	58.9 (27.9)	1.0	165.1	37.2
Jushan	798	63.9 (31.6)	8.5	210.9	46.4
Renwu	91	43.1 (23.2)	16.8	116.2	32.6
SO_2 (ppb), 24-h average					
Renai	224	4.3 (4.1)	0.2	48.8	3.9
Sinjhuang	61	3.7 (2.9)	0.6	15.7	2.8
Nantou	807	2.8 (1.5)	0.1	11.4	2.1
Puli	705	1.9 (1.0)	0.2	7.7	1.4
Jushan	777	2.3 (1.2)	0.2	8.0	1.6
Renwu	91	6.9 (4.8)	0.9	25.2	5.3
NO_2 (ppb), 24-h average					
Renai	239	17.2 (7.5)	2.5	43.5	11.2
Sinjhuang	60	26.1 (7.8)	11.7	47.2	7.5
Nantou	787	22.0 (9.0)	4.1	49.1	17.0
Puli	704	13.9 (7.0)	2.5	34.3	11.5
Jushan	776	16.9 (8.8)	1.3	42.0	15.1
Renwu	90	17.4 (6.7)	8.2	36.8	7.4
CO (ppm), 1-h maximum					
Renai	244	1.1 (0.4)	0.4	2.9	0.5
Sinjhuang	61	1.5 (0.7)	0.5	4.1	0.6
Nantou	820	1.0 (0.4)	0.2	4.4	0.6
Puli	779	1.0 (0.4)	0.2	2.9	0.5
Jushan	790	0.8 (0.4)	0.1	3.7	0.5
Renwu	91	0.9 (0.3)	0.3	1.5	0.4
O_3 (ppb), 1-h maximum					
Renai	243	52.0 (21.6)	10.3	112.7	27.5
Sinjhuang	61	56.9 (26.1)	30.3	138.8	27.1
Nantou	811	73.3 (28.4)	2.9	160.4	39.7
Puli	767	72.5 (29.4)	5.4	167.6	40.0
Jushan	796	77.6 (27.4)	8.4	167.9	38.0
Renwu	91	59.1 (24.8)	21.2	140.1	36.1

Temperature (℃)					
Renai	244	25.9 (3.4)	17.3	31.5	4.8
Sinjhuang	61	22.7 (3.3)	16.2	29.4	4.9
Nantou	822	24.6 (5.0)	9.3	32.4	7.7
Puli	797	22.6 (4.6)	8.7	31.7	6.9
Jushan	802	24.3 (4.7)	9.3	31.0	7.0
Renwu	91	27.3 (1.7)	22.0	30.5	2.1
Dew point (℃)					
Renai	244	20.9 (3.4)	6.5	25.4	3.8
Sinjhuang	61	16.0 (3.5)	6.3	20.6	3.7
Nantou	822	19.3 (4.9)	1.1	26.0	7.7
Puli	797	17.4 (4.8)	1.9	29.4	7.1
Jushan	802	19.1 (4.8)	1.3	25.3	7.7
Renwu	91	23.8 (1.8)	18.2	26.8	2.5

[a] According to the township type and potential emission sources, these six townships were classified into following four categories: seaport (Renai), urban (Sinjhuang), rural (Nantou, Puli, and Jushan), and industrial (Renwu) sites.

[b] Seaport site, 1 April to 30 November 2002 (244 days); urban site, 1 October to 30 November 2002 (61 days); rural sites, 1 June 2003 to 31 August 2005 (822 days); industrial site, 1 April to 30 June 2002 (91 days).

SD, standard deviation; IQR, interquartile range.

e**TABLE 2.** Comparisons of Human Studies on the Blood Pressure Changes in Response to Short-term Exposure to PM.

Reference	**Study Design**	**City**	**PM Size and Mean Concentrations (μg/m$^{3)}$**	**Subjects**	**Main Findings**
Ibald –Mulli et al. (2004)[11]	Observational	Amsterdam Helsinki Erfurt	$PM_{2.5}$ Amsterdam: 20 Helsinki: 12.7 Erfurt: 23.1	131 patients with CVDs	10 μg/m^3 increase in $PM_{2.5}$ over previous 5 days was associated with decreases in SBP (-0.36 mm Hg [95% CI: -0.99 to -0.27]) and DBP (-0.39 mm Hg [95% CI: -0.75 to -0.03])
Zanobetti et al. (2004)[2]	Panel	Boston	$PM_{2.5}$: 8.8	62 elderly subjects	10.4 μg/m^3 increase in $PM_{2.5}$ in previous 120 hours was associated with increases in DBP (2.82 mmHg [95% CI: 1.26-4.41]) and SBP (2.68 mmHg [95% CI: 0.04-5.38])
Mar et al. (2005)[12]	Panel	Seattle	$PM_{2.5}$ Healthy: 14.5 CVDs: 18 COPD: 14.3	88 subjects	10 μg/m^3 increase in $PM_{2.5}$ in same day was associated with decreases in SBP (-0.81 mmHg [95% CI: -2.34 to 0.73]) and DBP (-0.46 mmHg [95% CI: -1.49 to 0.57])
Ebelt et al. (2005)[10]	Panel	Vancouver	PM_{10}, $PM_{2.5}$ Ambient: 17 Personal: 10.3	16 COPD patients	Decreased SBP associated with same day each PM size fraction exposure
Dales et al. (2007)[17]	Panel	Ottawa	$PM_{2.5}$ Bus stop 1: 40 Bus stop 2: 10	39 healthy volunteers	SBP and DBP were not associated with $PM_{2.5}$ during the 2-h exposure
Auchincloss et al. (2008)[5]	Observational	Six U.S. communities	$PM_{2.5}$: 10.3-21.8	5,112 subjects	10 μg/m^3 increase in $PM_{2.5}$ 30-day mean was associated with increase in SBP (0.99 mm Hg; [95% CI, -0.15 to 2.03])

Dvonch et al. (2009)[6]	Observational	Detroit	$PM_{2.5}$: 15.0	347 subjects	10 μg/m^3 increase in PM_{10} was associated with a 3.2 mm Hg increase in SBP
Chuang et al. (2010)[8]	Observational	Taiwan	$PM_{10:}$ 55.27	7,578 subjects	An 34 μg/m^3 increase in PM_{10} was associated with elevated SBP (0.47 mmHg; [95% CI, -0.09 to 1.02])
Brook et al. (2011)[9]	Observational	Detroit	$PM_{2.5}$ Community:21.9 Personal: 15.4	120 non-smoking subjects	10 μg/m^3 increase in personal-level $PM_{2.5}$ was associated with a 1.41 mm Hg increase in SBP and trends towards vasoconstriction at lag 2 day
Hampel et al. (2011)[13]	Observational	France	PM_{10}: 19.1	1,500 pregnant women	PM_{10} was associated with a positive change in diastolic BP (1.1% [0.3-1.8%]) during the first trimester
Chen et al. (Our study)	observational	Taiwan	PM_{10}: 58.6	9,238 non-smoking adults	The systolic BP and pulse pressure were decreased by PM_{10}
Nightingale et al. (2000)[14]	Experimental	N/A	DE: 200	10 non-smoking healthy adults	BP was not affected following 2-h exposures
Brook et al. (2002)[15]	Experimental	N/A	$PM_{2.5}$ CAPs: 150	25 healthy adults	BP was not affected following 2-h exposures
Gong et al. (2003)[16]	Experimental	Los Angeles	$PM_{2.5}$: 174	12 non-smoking healthy; 12 asthmatic volunteers	$PM_{2.5}$ decreased SBP in asthmatics, but increased SBP in healthy subjects

Urch et al. (2005)[3]	Experimental	N/A	$PM_{2.5}$ CAPs: 150	23 healthy adults	A significant 9.3 % increase in DBP among healthy adults prior to the end of a 2-h exposure
Mills et al. (2005)[4]	Experimental	N/A	DE: 300	30 healthy men	1-h exposure DE increased 6 mmHg in DBP, with a marginal statistical significance compared to filtered air control
Tornqvist et al. (2007)[18]	Experimental	N/A	DE: 330	15 healthy men	Changes in BP 24 h following DE exposure was not observed
Peretz et al. (2008)[19]	Experimental	N/A	DE: 100, 200	10 healthy and 17 MetS volunteers	Changes in SBP or DBP in either healthy adults or adults with metabolic syndrome following a 2-h exposure were not observed
Lundback et al. (2009)[20]	Experimental	N/A	DE: 350	12 healthy volunteers	Changes in BP 24 h following DE exposure was not observed, but an increased in arterial stiffness was noted.
Fakhri et al. (2009)[7]	Experimental	N/A	CAPs: 121.6	50 subjects	A significant increase in DBP by 2.0 mm Hg with exposure to CAPs combined O_3 exposure

PM, particulate matters; $PM_{2.5}$, particulate matters with diameter <2.5 μm; PM_{10}, particulate matters with diameter <10 μm; BC, black carbon; CAPs, concentrated ambient particles; DE, Diesel exhaust; CVDs, cardiovascular diseases; COPD, chronic obstructive pulmonary disease; MetS, metabolic syndrome; BP, blood pressure; SBP, systolic blood pressure; DBP, diastolic blood pressure; N/A, not available.

eFIGURE. Associations of systolic and diastolic BP and pulse pressure with PM_{10}: stratified by season. The effect estimates and 95% CIs are for an interquartile range increase in PM_{10}, adjusted for the same variables as in Table 2 except the stratified covariate.