

## Supplementary Material

**Figure S1.** A typical traditional housing neighborhood



Note: Picture taken on Baidu Streetview, March 11<sup>th</sup>, 2021

**Table S1.** Statistical summary of variables by the whole population, gender, and age group

					Mean (SD) or Percentage					
	All (n=881)	Male (n=450)	Female (n=431)		Age 18-29 (n=220)	Age 30-39 (n=158)	Age 40-49 (n=181)	Age 50- 59 (n=146)	Age 60+ (n=176)	
Health perception	2.81 (0.95)	2.69 (0.95)	2.94 (0.93)	***	2.28 (0.76)	2.57 (0.78)	2.85 (0.84)	3.18 (0.91)	3.38 (1.01)	***
Excellent (1)	0.050	0.076	0.028	***	0.132	0.044	0.033	0.007	0.017	***
Very good (2)	0.360	0.390	0.320	***	0.514	0.462	0.309	0.253	0.210	***
Good (3)	0.350	0.322	0.387	***	0.300	0.386	0.464	0.356	0.278	***
Fair (4)	0.190	0.176	0.209	***	0.055	0.095	0.166	0.322	0.369	***
Poor (5)	0.050	0.031	0.050	***	0.000	0.013	0.028	0.062	0.125	***
Demography										
Gender										
Male	0.51				0.555	0.525	0.547	0.397	0.500	
Female	0.49				0.445	0.475	0.453	0.603	0.500	
Age	43.55 (14.84)	42.63 (14.88)	44.51 (14.76)							
Years living in Chengdu	28.75 (20.4)	27.76 (20.37)	29.79 (20.41)		14.26 (10.12)	22.04 (12.44)	25.55 (15.58)	35.03 (20.89)	48.92 (21.61)	***
Years of education	9.95 (5.37)	10.49 (6.02)	9.38 (4.54)	**	13.23 (2.81)	12.85 (7.64)	9.55 (7.38)	6.93 (3.42)	6.14 (3.86)	***

Rural hukou										
Yes	0.42	0.43	0.42		0.500	0.399	0.459	0.500	0.256	***
No	0.58	0.57	0.58		0.500	0.601	0.541	0.500	0.744	***
Chengdu hukou										
Yes	0.61	0.58	0.65		0.373	0.627	0.619	0.637	0.858	***
No	0.39	0.42	0.35		0.627	0.373	0.381	0.363	0.142	***
Household income level	2.15 (0.56)	2.23 (0.58)	2.06 (0.53)	***	2.168 (0.462)	2.229 (0.535)	2.249 (0.631)	1.993 (0.581)	1.983 (0.540)	***
Low (1)	0.087	0.064	0.111		0.027	0.019	0.088	0.171	0.153	
Average (2)	0.686	0.653	0.719		0.786	0.646	0.591	0.664	0.710	
Mid-high (3)	0.219	0.269	0.167		0.177	0.323	0.304	0.164	0.136	
High (4)	0.008	0.013	0.002		0.009	0.013	0.017	0.000	0.000	
Employment status										
Currently working	0.687	0.769	0.601	***	0.923	0.924	0.901	0.514	0.102	***
Retired	0.202	0.187	0.218	***	0.000	0.000	0.006	0.274	0.778	***
Unemployed	0.030	0.024	0.035	***	0.023	0.025	0.022	0.075	0.011	***
Homemaker	0.067	0.011	0.125	***	0.018	0.051	0.066	0.116	0.102	***
Student	0.009	0.007	0.012	***	0.027	0.000	0.000	0.007	0.006	***
Others	0.006	0.002	0.009	***	0.009	0.000	0.006	0.014	0.000	***
Working environment										
Indoors	0.731	0.713	0.749		0.845	0.899	0.702	0.548	0.619	***
Outdoors	0.251	0.258	0.244		0.127	0.101	0.276	0.425	0.369	***
Underground/Underwater	0.006	0.011	0.000		0.009	0.000	0.011	0.007	0.000	***
Others	0.012	0.018	0.007		0.018	0.000	0.011	0.021	0.011	***
Chance of getting injured at work	2.63 (2.53)	2.82 (2.61)	2.44 (2.43)	*	2.60 (2.46)	2.39 (2.36)	2.82 (2.69)	3.10 (2.67)	2.32 (2.46)	
Years of working	19.42 (13.74)	19.59 (13.86)	19.24 (13.62)	*	4.62 (2.97)	11.22 (5.10)	21.56 (5.47)	27.29 (10.69)	36.53 (10.15)	***
Marital status										
Currently married	0.74	0.71	0.78	**	0.314	0.892	0.928	0.863	0.863	***
Currently not married	0.26	0.29	0.22	**	0.686	0.108	0.072	0.137	0.137	***
Household size	3.16 (1.33)	3.12 (1.31)	3.2 (1.36)		2.86 (1.48)	3.58 (1.36)	3.34 (1.06)	3.30 (1.32)	2.86 (1.25)	
Lifestyle and Health Awareness										
Air quality perception	3.26 (0.91)	3.28 (0.93)	3.23 (0.90)		3.25 (0.89)	3.39 (0.93)	3.29 (0.81)	3.33 (0.91)	3.05 (1.00)	.
Very good (1)	0.014	0.011	0.016		0.000	0.019	0.011	0.007	0.034	
Good (2)	0.192	0.202	0.181		0.209	0.133	0.144	0.171	0.290	
Neutral (3)	0.410	0.380	0.441		0.432	0.405	0.436	0.418	0.352	
Bad (4)	0.295	0.313	0.276		0.264	0.323	0.365	0.295	0.239	
Very bad (5)	0.090	0.100	0.080		0.095	0.120	0.044	0.110	0.085	
Smoking										.
Yes	0.36	0.65	0.05	***	0.364	0.418	0.376	0.349	0.290	
No	0.64	0.35	0.95	***	0.636	0.582	0.624	0.651	0.710	
Hours of weekly exercise	5.95 (7.33)	5.91 (7.39)	5.99 (7.27)		5.40 (5.75)	4.90 (6.99)	4.53 (7.26)	6.50 (8.52)	8.58 (7.72)	***
Health insurance										
Yes	0.82	0.84	0.81		0.727	0.791	0.873	0.849	0.930	***
No	0.18	0.16	0.19		0.273	0.209	0.127	0.151	0.070	***

Familiarity to asthma	3.1 (0.86)	3 (0.88)	3.03 (0.84)		3.04 (0.89)	2.92 (0.83)	2.89 (0.80)	3.10 (0.88)	3.13 (0.86)	
Very familiar	0.03	0.03	0.03		0.045	0.013	0.028	0.027	0.040	
(1) Little familiar	0.27	0.29	0.24		0.236	0.348	0.298	0.260	0.193	
(2) Not familiar (3)	0.26	0.32	0.40		0.355	0.342	0.431	0.295	0.369	
Not familiar at all (4)	0.34	0.36	0.33		0.364	0.297	0.243	0.418	0.398	
Willing to pay for asthma treatment										
Yes	0.45	0.47	0.43		0.482	0.500	0.492	0.445	0.318	**
No	0.55	0.53	0.57		0.518	0.500	0.508	0.555	0.682	**
Daily cooking time in family	1.98 (1.24)	1.86 (1.22)	2.11 (1.26)	**	1.53 (1.26)	2.16 (1.28)	2.01 (1.10)	2.44 (2.35)	2.00 (1.05)	***
Indoor environment										
Fuel use - LPG										
Yes	0.19	0.18	0.19		0.105	0.152	0.287	0.267	0.148	*
No	0.81	0.82	0.81		0.677	0.804	0.646	0.685	0.807	*
Fuel use - natural gas										
Yes	0.72	0.71	0.73		0.677	0.804	0.646	0.685	0.807	
No	0.28	0.29	0.27		0.323	0.196	0.354	0.315	0.193	
Fuel use - electricity										
Yes	0.34	0.3	0.37	*	0.345	0.310	0.320	0.397	0.313	
No	0.66	0.7	0.63	*	0.655	0.690	0.680	0.603	0.688	
Fuel use - coal										
Yes	0.02	0.02	0.03		0.014	0.006	0.022	0.041	0.028	
No	0.98	0.98	0.97		0.986	0.994	0.978	0.959	0.972	
Hours of daily natural ventilation	16.39 (7.94)	16.5 (7.95)	16.29 (7.93)		15.75 (8.17)	15.77 (8.04)	15.48 (8.43)	17.21 (7.23)	18.02 (7.35)	**
Air conditioner										
Yes	0.35	0.34	0.35		0.414	0.449	0.337	0.336	0.182	***
No	0.65	0.65	0.65		0.586	0.551	0.663	0.664	0.818	***
Smoking in household										
Yes	0.62	0.71	0.53	***	0.577	0.696	0.713	0.644	0.506	
No	0.38	0.29	0.47	***	0.423	0.304	0.287	0.356	0.494	
Neighborhood Environment										
Sidewalk in front of building										
Yes	0.94	0.94	0.95		0.964	0.956	0.923	0.925	0.949	
No	0.06	0.06	0.05		0.036	0.044	0.077	0.075	0.051	
Building height type										
Flat	0.08	0.07	0.09		0.064	0.063	0.088	0.110	0.068	
2-6 storied building	0.64	0.67	0.61		0.655	0.627	0.663	0.637	0.608	
+6 storied building	0.28	0.27	0.30		0.282	0.310	0.249	0.253	0.324	
Building condition	3.04 (0.91)	3.04 (0.93)	3.05 (0.89)		3.05 (0.84)	3.00 (0.93)	3.07 (0.94)	3.14 (1.09)	2.98 (0.77)	
Good (1)	0.09	0.10	0.09		0.077	0.108	0.094	0.116	0.080	
Average (3)	0.79	0.78	0.80		0.823	0.785	0.779	0.699	0.852	

Bad (5)	0.12	0.12	0.11	0.100	0.108	0.127	0.185	0.068
<b>Neighborhood situation</b>								
Work unit dormitory	0.017	0.011	0.023	0.009	0.025	0.028	0.014	0.011
Normal residential	0.966	0.976	0.956	0.986	0.956	0.972	0.952	0.955
Government residential	0.003	0.000	0.007	0.000	0.000	0.000	0.000	0.017
Luxurious residential	0.012	0.011	0.014	0.005	0.019	0.000	0.027	0.017
Construction site temporary dormitory	0.001	0.002	0.000	0.000	0.000	0.000	0.007	0.000
<b>Neighborhood type</b>								
1 (Traditional)	0.182	0.202	0.160	0.214	0.184	0.182	0.130	0.182
2 (Work-unit)	0.244	0.231	0.258	0.268	0.259	0.204	0.219	0.261
3 (Gated-community)	0.251	0.240	0.262	0.241	0.184	0.276	0.322	0.239
4 (Relocated housing)	0.323	0.327	0.320	0.277	0.373	0.337	0.329	0.318

Note: Significant level \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

Categorical variables listed in Table S1, including employment status, working environment, building height type, neighborhood situation and type, are not included in the regression.

**Table S2. Statistical summary of all variables by neighborhood type**

	Mean (SD) or Percentage				
	Type 1 (n=160)	Type 2 (n=215)	Type 3 (n=221)	Type 4 (n=285)	
<b>Health perception</b>	<b>2.73</b> <b>(0.84)</b>	<b>2.63</b> <b>(1.01)</b>	<b>2.95</b> <b>(0.91)</b>	<b>2.89</b> <b>(0.91)</b>	<b>**</b>
Excellent (1)	0.056	0.093	0.027	0.039	
Very good (2)	0.394	0.442	0.312	0.312	
Good (3)	0.363	0.247	0.380	0.411	
Fair (4)	0.138	0.177	0.240	0.196	
Poor (5)	0.053	0.042	0.041	0.042	
<b>Demography</b>					
<b>Gender</b>					
Male	0.57	0.48	0.49	0.52	
Female	0.43	0.52	0.51	0.48	
<b>Age</b>	42.27 (15.44)	43.27 (15.28)	44.16 (14.18)	44.01 (14.7)	
<b>Years living in Chengdu</b>	28.31 (19.83)	26.72 (20.15)	29.01 (20.48)	30.28 (20.81)	
<b>Years of education</b>	10.13 (4.51)	10.33 (4.44)	9.11 (4.13)	10.2 (7.02)	
<b>Rural hukou</b>					
Yes	<b>0.36</b>	<b>0.42</b>	<b>0.42</b>	<b>0.47</b>	<b>*</b>
No	<b>0.64</b>	<b>0.58</b>	<b>0.58</b>	<b>0.53</b>	<b>*</b>
<b>Chengdu hukou</b>					
Yes	0.58	0.62	0.59	0.64	
No	0.42	0.38	0.41	0.36	

<b>Household income level</b>	2.11 (0.48)	2.15 (0.56)	2.16 (0.6)	2.16 (0.56)	
Low (1)	0.069	0.093	0.104	0.081	
Average (2)	0.756	0.679	0.638	0.688	
Mid-high (3)	0.175	0.214	0.249	0.225	
High (4)	0.000	0.014	0.009	0.007	
<b>Employment status</b>					
Currently working	<b>0.738</b>	<b>0.670</b>	<b>0.647</b>	<b>0.702</b>	*
Retired	<b>0.206</b>	<b>0.233</b>	<b>0.222</b>	<b>0.161</b>	*
Unemployed	<b>0.031</b>	<b>0.014</b>	<b>0.036</b>	<b>0.035</b>	*
Homemaker	<b>0.019</b>	<b>0.074</b>	<b>0.063</b>	<b>0.091</b>	*
Student	<b>0.007</b>	<b>0.009</b>	<b>0.023</b>	<b>0.000</b>	*
Others	<b>0.000</b>	<b>0.000</b>	<b>0.009</b>	<b>0.011</b>	*
<b>Working environment</b>					
Indoors	0.794	0.758	0.638	0.747	
Outdoors	0.188	0.223	0.353	0.228	
Underground/ Underwater	0.013	0.005	0.000	0.007	
Others	0.006	0.014	0.009	0.018	
<b>Chance of getting injured at work</b>	2.61 (2.37)	2.48 (2.55)	2.97 (2.56)	2.49 (2.56)	
<b>Years of working</b>	19.49 (14.03)	17.86 (13.77)	20.48 (13.42)	19.73 (13.76)	
<b>Marital status</b>					
Currently married	<b>0.64</b>	<b>0.76</b>	<b>0.76</b>	<b>0.78</b>	**
Currently not married	<b>0.36</b>	<b>0.24</b>	<b>0.24</b>	<b>0.22</b>	**
<b>Household size</b>	2.89 (1.3)	3.29 (1.26)	3.19 (1.46)	3.19 (1.29)	
<b>Lifestyle and Health Awareness</b>					
<b>Air quality perception</b>	3.58 (0.94)	3 (0.95)	3.27 (0.81)	3.26 (0.89)	
Very good (1)	0.006	0.047	0.005	0.000	
Good (2)	0.125	0.265	0.136	0.218	
Neutral (3)	0.325	0.386	0.520	0.389	
Bad (4)	0.375	0.251	0.262	0.309	
Very bad (5)	0.180	0.051	0.077	0.084	
<b>Smoking</b>					
Yes	0.41	0.31	0.38	0.35	
No	0.59	0.69	0.62	0.65	
<b>Hours of weekly exercise</b>	6.67 (6.38)	4.07 (5.76)	6.99 (8.13)	6.15 (7.96)	
<b>Health insurance</b>					
Yes	0.88	0.67	0.9	0.85	
No	0.12	0.33	0.1	0.15	
<b>Familiarity to asthma</b>	3.04 (0.81)	2.89 (0.87)	3.01 (0.87)	3.1 (0.86)	
Very familiar (1)	0.01	0.04	0.04	0.03	
Little familiar (2)	0.27	0.31	0.26	0.23	
Not familiar (3)	0.39	0.36	0.36	0.34	
Not familiar at all (4)	0.33	0.28	0.34	0.39	
<b>Willing to pay for asthma treatment</b>					
Yes	0.53	0.42	0.43	0.45	

No	0.47	0.58	0.57	0.55	
<b>Daily cooking time in family</b>	1.98 (1.25)	1.69 (1.06)	2.25 (1.27)	1.99 (1.3)	
<b>Indoor environment</b>					
<b>Fuel use - LPG</b>					
Yes	<b>0.08</b>	<b>0.08</b>	<b>0.19</b>	<b>0.33</b>	***
No	<b>0.92</b>	<b>0.92</b>	<b>0.81</b>	<b>0.67</b>	***
<b>Fuel use - natural gas</b>					
Yes	<b>0.81</b>	<b>0.81</b>	<b>0.72</b>	<b>0.6</b>	***
No	<b>0.19</b>	<b>0.19</b>	<b>0.28</b>	<b>0.4</b>	***
<b>Fuel use - electricity</b>					
Yes	<b>0.38</b>	<b>0.42</b>	<b>0.21</b>	<b>0.34</b>	*
No	<b>0.62</b>	<b>0.58</b>	<b>0.79</b>	<b>0.66</b>	*
<b>Fuel use - coal</b>					
Yes	0.006	0.028	0.005	0.039	
No	0.994	0.972	0.995	0.961	
<b>Hours of daily natural ventilation</b>	<b>15.16</b> <b>(7.16)</b>	<b>14.15</b> <b>(8.75)</b>	<b>18.57</b> <b>(7.35)</b>	<b>17.09</b> <b>(7.62)</b>	***
<b>Air conditioner</b>					
Yes	0.34	0.42	0.3	0.33	
No	0.66	0.58	0.7	0.67	
<b>Smoking in household</b>					
Yes	0.63	0.57	0.65	0.64	
No	0.37	0.43	0.35	0.36	
<b>Neighborhood Environment</b>					
<b>Sidewalk in front of building</b>					
Yes	0.99	0.97	0.85	0.98	
No	0.01	0.03	0.15	0.02	
<b>Building height type</b>					
Flat	<b>0.00</b>	<b>0.04</b>	<b>0.11</b>	<b>0.12</b>	***
2-6 storied building	<b>0.72</b>	<b>0.57</b>	<b>0.64</b>	<b>0.65</b>	***
+6 storied building	<b>0.28</b>	<b>0.40</b>	<b>0.24</b>	<b>0.23</b>	***
<b>Building condition</b>					
	3.38 (0.9)	2.8 (0.83)	3.04 (0.97)	3.04 (0.87)	
Good (1)	0.03	0.14	0.11	0.08	
Average (3)	0.76	0.82	0.76	0.81	
Bad (5)	0.21	0.04	0.13	0.11	
<b>Neighborhood situation</b>					
Work unit dormitory	0.063	0.014	0.000	0.007	
Normal residential	0.931	0.958	0.991	0.972	
Government residential	0.006	0.000	0.005	0.004	
Luxurious residential	0.000	0.028	0.000	0.018	
Construction site temporary dormitory	0.000	0.000	0.005	0.000	
<b>Neighborhood type</b>					
1 (Traditional)					
2 (Work-unit)					
3 (Gated-community)					
4 (Relocated housing)					

Note: Significant level \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Table S3. Linear regression results of self-rated health perception of the whole population and by gender**

	All		Male		Female	
	Coef.	P-value	Coef.	P-value	Coef.	P-value
(Intercept)	0.9536	0.0095 **	0.6588	0.1682	1.9197	0.0003 ***
<b>Demography</b>						
Gender	<b>0.2053</b>	<b>0.0059 **</b>				
Age	<b>0.0232</b>	<b>9.3200E-08 ***</b>	<b>0.0215</b>	<b>0.0015 **</b>	<b>0.0253</b>	<b>2.4300E-05 ***</b>
Years living in Chengdu	<b>0.0047</b>	<b>0.0304 *</b>	<b>0.0100</b>	<b>0.0024 **</b>	0.0009	0.7699
Years of education	-0.0123	0.0645	-0.0098	0.2000	-0.0232	0.0957
Rural hukou	0.0460	0.5795	0.0969	0.4154	-0.0122	0.9180
Chengdu hukou	-0.1550	0.0696	<b>-0.2621</b>	<b>0.0337 *</b>	-0.0681	0.5777
Household income level	-0.0760	0.2103	0.0492	0.5477	<b>-0.2325</b>	<b>0.0121 *</b>
Chance of getting injured at work	0.0066	0.5829	-0.0062	0.7038	0.0265	0.1459
Years of working	-0.0006	0.8804	-0.0016	0.8125	-0.0047	0.3898
Marital status	-0.1189	0.1163	-0.0275	0.7974	<b>-0.2274</b>	<b>0.0409 *</b>
Household size	0.0114	0.6258	-0.0198	0.5704	0.0370	0.2526
<b>Lifestyle and Health Awareness</b>						
Air quality perception	<b>0.1551</b>	<b>1.5500E-06 ***</b>	<b>0.1747</b>	<b>0.0001 ***</b>	<b>0.1385</b>	<b>0.0035 **</b>
Smoking	-0.0818	0.3758	-0.1279	0.4232	-0.0906	0.6185
Hours of weekly exercise	-0.0073	0.0789	-0.0028	0.6280	-0.0104	0.1037
Health insurance	<b>0.1666</b>	<b>0.0419 *</b>	0.1267	0.2800	0.2307	0.0501
Familiarity to asthma	0.0471	0.1615	0.0320	0.4858	0.0469	0.3638
Willing to pay for asthma treatment	0.0055	0.9248	-0.0037	0.9643	0.0628	0.4556
Daily cooking time in family	-0.0016	0.9538	-0.0159	0.6909	-0.0158	0.6899
<b>Indoor environment</b>						
Fuel use - LPG	-0.1334	0.2847	0.0135	0.9403	-0.2379	0.1883
Fuel use - natural gas	0.1105	0.2991	0.2799	0.0622 .	-0.0161	0.9208
Fuel use - electricity	-0.0631	0.3366	-0.0799	0.3989	-0.0640	0.4954
Fuel use - coal	0.0745	0.7085	-0.2565	0.4280	0.2333	0.3643
Hours of daily natural ventilation	<b>0.0127</b>	<b>0.0008 ***</b>	<b>0.0177</b>	<b>0.0011 **</b>	0.0084	0.1227
Air conditioner	<b>-0.1700</b>	<b>0.0114 *</b>	-0.1867	0.0526 .	-0.1141	0.2362
Smoking in household	<b>0.2014</b>	<b>0.0084 **</b>	0.2613	0.1215	<b>0.2051</b>	<b>0.0280 *</b>
<b>Neighborhood environment</b>						
Sidewalk in front of building	-0.1125	0.3685	-0.1480	0.3767	-0.0086	0.9646
Building condition	-0.0277	0.4325	-0.0139	0.7783	-0.0270	0.6067

Note: Significant level \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Table S4. Linear regression results of self-rated health perception by age group**

	Age 18-29		Age 30-39		Age 40-49		Age 50-59		Age 60+	
	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value	Coef.	P-value
(Intercept)	1.135	0.070	1.635	0.044*	3.655	1.50E-05***	1.864	0.065	2.491	0.012*
<b>Demography</b>										
Gender	<b>0.301</b>	<b>0.011*</b>	0.031	0.867	0.133	0.502	0.312	0.199	0.159	0.394
Age										
Years living in Chengdu	0.006	0.406	0.003	0.723	0.003	0.646	0.010	0.086	0.004	0.276
Years of education	0.012	0.550	0.004	0.611	<b>-0.051</b>	<b>0.028 *</b>	0.104	0.144	-0.027	0.200
Rural hukou	-0.057	0.655	0.104	0.583	-0.326	0.131	0.384	0.162	0.128	0.586
Chengdu hukou	-0.160	0.250	-0.070	0.726	-0.278	0.257	0.141	0.570	-0.379	0.163
Income level	0.096	0.384	0.074	0.623	0.017	0.897	-0.348	0.060	-0.075	0.621
Chance of getting injured at work	-0.006	0.797	0.019	0.507	0.004	0.890	0.023	0.486	0.016	0.629
Years of working	0.005	0.778	0.004	0.802	-0.016	0.205	-0.006	0.483	0.010	0.173
Marital status	-0.008	0.949	0.150	0.514	-0.510	0.057	-0.288	0.223	-0.150	0.481
Household size	0.015	0.685	-0.060	0.272	-0.036	0.587	0.086	0.178	-0.011	0.862
<b>Lifestyle and Health Awareness</b>										
Air quality perception	-0.020	0.724	0.144	0.054	0.131	0.115	0.126	0.173	<b>0.337</b>	<b>1.29E-05***</b>
Smoking	<b>-0.368</b>	<b>0.017*</b>	-0.253	0.250	-0.009	0.969	0.258	0.336	0.005	0.984
Hours of weekly exercise	-0.009	0.329	-0.016	0.150	-0.010	0.312	0.017	0.076	<b>-0.023</b>	<b>0.023*</b>
Health insurance	0.237	0.062	0.095	0.620	0.128	0.526	0.188	0.433	-0.036	0.901
Familiarity to asthma	0.105	0.054	0.004	0.960	0.071	0.394	0.035	0.711	-0.051	0.552
Willing to pay for asthma treatment	0.004	0.967	-0.036	0.797	-0.100	0.445	0.064	0.691	0.123	0.445
Daily cooking time in family	0.025	0.635	0.018	0.789	0.035	0.609	<b>-0.137</b>	<b>0.042*</b>	3.96E-04	0.996
<b>Indoor environment</b>										
Fuel use - LPG	-0.415	0.063	0.224	0.521	-0.386	0.214	-0.164	0.654	0.081	0.840
Fuel use - natural gas	-0.093	0.516	0.490	0.111	-0.486	0.118	0.528	0.139	0.409	0.293
Fuel use - electricity	<b>-0.378</b>	<b>6.26E-04***</b>	-0.100	0.533	-0.096	0.530	-0.005	0.978	<b>0.385</b>	<b>0.028*</b>
Fuel use - coal	<b>0.949</b>	<b>0.02 *</b>	-0.737	0.384	-0.319	0.472	-0.116	0.777	0.107	0.823
Hours of daily natural ventilation	<b>0.023</b>	<b>5.71E-04***</b>	0.013	0.211	0.009	0.252	<b>0.031</b>	<b>0.010**</b>	-0.019	0.061
Air conditioner	-0.197	0.075	-0.058	0.704	0.007	0.967	-0.099	0.621	-0.032	0.873
Smoking in household	<b>0.274</b>	<b>0.033 *</b>	0.339	0.063	0.082	0.676	-0.132	0.518	0.371	0.074
<b>Neighborhood environment</b>										
Sidewalk in front of building	-0.370	0.152	-0.693	0.038	0.228	0.385	0.233	0.459	-0.386	0.259
Building condition	0.055	0.378	-0.003	0.973	-0.032	0.708	-0.070	0.434	0.055	0.607

Note: Significant level \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Table S5. Odd ratio and confidence interval of self-rated health perception by age group.**

	Age 18-29			Age 30-39			Age 40-49			Age 50-59			Age 60+		
	OR	95% CI		OR	95% CI		OR	95% CI		OR	95% CI		OR	95% CI	
<b>Demography</b>															
Gender	<b>1.351*</b>	<b>1.072</b>	<b>1.704</b>	1.032	0.713	1.493	1.142	0.773	1.687	1.366	0.847	2.202	1.173	0.811	1.695

Years living in Chengdu	1.006	0.992	1.019	1.003	0.988	1.018	1.003	0.991	1.015	1.010	0.999	1.021	1.004	0.997	1.012
Years of education	1.012	0.973	1.053	1.004	0.987	1.022	<b>0.950*</b>	<b>0.908</b>	<b>0.994</b>	0.960	0.909	1.014	0.973	0.933	1.015
Rural hukou	0.945	0.735	1.214	1.110	0.763	1.615	0.722	0.473	1.103	1.467	0.856	2.516	1.137	0.714	1.810
Chengdu hukou	0.852	0.648	1.120	0.932	0.628	1.384	0.757	0.467	1.227	1.151	0.705	1.878	0.685	0.402	1.167
Household income level	1.101	0.886	1.368	1.076	0.801	1.447	1.017	0.787	1.313	0.706	0.491	1.016	0.928	0.688	1.251
Chance of getting injured at work	0.994	0.953	1.038	1.019	0.963	1.079	1.004	0.952	1.058	1.023	0.959	1.092	1.016	0.953	1.083
Years of working	1.005	0.969	1.043	1.004	0.976	1.032	0.985	0.961	1.009	0.995	0.979	1.010	1.010	0.996	1.025
Marital status	0.992	0.781	1.260	1.162	0.738	1.828	0.600	0.355	1.015	0.750	0.470	1.194	0.860	0.565	1.311
Household size	1.015	0.944	1.091	0.941	0.845	1.049	0.965	0.847	1.099	1.090	0.961	1.236	0.989	0.875	1.119
<b>Lifestyle and Health Awareness</b>															
Air quality perception	0.980	0.878	1.095	1.154	0.998	1.336	1.139	0.968	1.341	1.134	0.946	1.361	<b>1.401***</b>	<b>1.209</b>	<b>1.624</b>
Smoking	<b>0.692*</b>	<b>0.511</b>	<b>0.936</b>	0.777	0.503	1.198	0.991	0.630	1.560	1.295	0.762	2.201	1.005	0.608	1.661
Hours of weekly exercise	0.991	0.973	1.009	0.984	0.963	1.006	0.990	0.972	1.009	1.017	0.998	1.036	<b>0.977*</b>	<b>0.958</b>	<b>0.997</b>
Health insurance	1.268	0.988	1.628	1.099	0.754	1.603	1.136	0.764	1.689	1.206	0.753	1.933	0.965	0.549	1.698
Familiarity to asthma	1.111	0.998	1.237	1.004	0.855	1.179	1.074	0.911	1.266	1.035	0.860	1.247	0.950	0.802	1.126
Willing to pay for asthma treatment	1.004	0.827	1.219	0.965	0.732	1.272	0.905	0.698	1.172	1.066	0.776	1.464	1.131	0.823	1.553
Daily cooking time in family	1.025	0.925	1.136	1.018	0.894	1.158	1.035	0.906	1.182	<b>0.872*</b>	<b>0.764</b>	<b>0.995</b>	1.000	0.852	1.175
<b>Indoor environment</b>															
Fuel use - LPG	0.661	0.427	1.023	1.251	0.629	2.486	0.680	0.369	1.252	0.849	0.413	1.746	1.085	0.491	2.396
Fuel use - natural gas	0.912	0.688	1.207	1.632	0.893	2.984	0.615	0.334	1.134	1.696	0.841	3.420	1.505	0.700	3.238
Fuel use - electricity	<b>0.685***</b>	<b>0.553</b>	<b>0.849</b>	0.905	0.659	1.241	0.908	0.671	1.229	0.995	0.669	1.478	<b>1.470*</b>	<b>1.043</b>	<b>2.072</b>
Fuel use - coal	<b>2.582*</b>	<b>1.128</b>	<b>5.910</b>	0.479	0.090	2.542	0.727	0.303	1.741	0.890	0.395	2.007	1.113	0.432	2.869
Hours of daily natural ventilation	<b>1.023***</b>	<b>1.010</b>	<b>1.037</b>	1.013	0.993	1.033	1.009	0.993	1.026	<b>1.031**</b>	<b>1.008</b>	<b>1.056</b>	0.981	0.962	1.001
Air conditioner	0.821	0.661	1.021	0.944	0.700	1.273	1.007	0.727	1.395	0.906	0.610	1.345	0.969	0.655	1.432
Smoking in household	<b>1.316*</b>	<b>1.022</b>	<b>1.693</b>	1.404	0.981	2.010	1.086	0.736	1.603	0.876	0.585	1.313	1.449	0.964	2.179
<b>Neighborhood environment</b>															
Sidewalk in front of building	0.691	0.416	1.148	<b>0.500*</b>	<b>0.260</b>	<b>0.961</b>	1.256	0.749	2.108	1.263	0.678	2.351	0.680	0.346	1.333
Building condition	1.057	0.934	1.196	0.997	0.847	1.174	0.968	0.817	1.148	0.932	0.780	1.113	1.057	0.855	1.305

Note: Significant levels \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Table S6. Linear regression results of self-rated health perception by neighborhood type**

	Type 1 (Traditional)			Type 2 (Work-unit)			Type 3 (Gated-community)			Type 4 (Relocated housing)		
	Coef.	P-value		Coef.	P-value		Coef.	P-value		Coef.	P-value	
(Intercept)	4.2147	0.0001	***	1.8740	0.0418	*	0.3804	0.6331		-0.0534	0.9374	
<b>Demography</b>												
Gender	-0.0794	0.6264		0.1722	0.2529		0.1120	0.5192		<b>0.3729</b>	<b>0.0036</b>	**
Age	-0.0010	0.9305		<b>0.0230</b>	<b>0.0109</b>	*	<b>0.0242</b>	<b>0.0131</b>	*	<b>0.0234</b>	<b>0.0012</b>	**
Years living in Chengdu	0.0104	0.0561	.	-0.0023	0.5896		0.0063	0.2035		<b>0.0077</b>	<b>0.0337</b>	*
Years of education	<b>-0.0866</b>	<b>0.0005</b>	***	-0.0085	0.6857		-0.0024	0.9129		-0.0082	0.2860	
Rural hukou	<b>-0.4932</b>	<b>0.0204</b>	*	-0.2927	0.1156		0.2723	0.1448		<b>0.3886</b>	<b>0.0066</b>	**
Chengdu hukou	<b>-0.8168</b>	<b>0.0001</b>	***	-0.1697	0.3775		0.2121	0.2435		-0.0390	0.7841	
Income level	0.1605	0.3357		<b>-0.2881</b>	<b>0.0252</b>	*	0.0655	0.6112		-0.0264	0.7899	
Chance of getting injured at work	-0.0239	0.4631		0.0197	0.4283		0.0178	0.4740		0.0045	0.8256	
Years of working	0.0123	0.2694		<b>0.0174</b>	<b>0.0489</b>	*	-0.0114	0.2083		-0.0062	0.3553	
Marital status	-0.2421	0.1344		0.0402	0.8102		-0.2984	0.0718	.	-0.0126	0.9233	
Household size	0.0650	0.2773		-0.0800	0.1507		0.0690	0.1233		-0.0098	0.8121	
<b>Lifestyle and Health Awareness</b>												
Air quality perception	0.0863	0.2642		<b>0.2582</b>	<b>0.0001</b>	***	<b>0.1976</b>	<b>0.0105</b>	*	0.0563	0.3252	
Smoking	-0.1218	0.5575		0.0522	0.7851		-0.3238	0.1211		-0.0129	0.9350	
Hours of weekly exercise	0.0044	0.7146		<b>-0.0253</b>	<b>0.0483</b>	*	-0.0101	0.1848		-0.0013	0.8379	
Health insurance	-0.0759	0.7271		-0.0405	0.7826		0.1820	0.3973		<b>0.3060</b>	<b>0.0268</b>	*
Familiarity to asthma	0.0865	0.3139		-0.0687	0.3439		0.1269	0.0644	.	0.0050	0.9312	
Willing to pay for asthma treatment	0.0081	0.9520		0.1865	0.1444		-0.1394	0.2530		-0.0777	0.4372	
Daily cooking time in family	0.0734	0.2867		0.0247	0.7363		-0.0684	0.2105		0.0129	0.7843	
<b>Indoor environment</b>												
Fuel use - LPG	0.2749	0.4491		0.0401	0.8811		<b>-0.8147</b>	<b>0.0027</b>	**	-0.0529	0.8087	
Fuel use - natural gas	0.2057	0.4269		0.1311	0.5239		-0.3110	0.1765		0.2602	0.2405	
Fuel use - electricity	-0.0618	0.7032		0.1438	0.2778		0.1564	0.3186		-0.2261	0.0517	.
Fuel use - coal	-0.8395	0.3339		0.4525	0.2352		-0.5638	0.5486		-0.1534	0.5607	
Hours of daily natural ventilation	-0.0168	0.1050		0.0112	0.1343		<b>0.0208</b>	<b>0.0122</b>	*	<b>0.0160</b>	<b>0.0173</b>	*
Air conditioner	<b>-0.4008</b>	<b>0.0129</b>	*	-0.0994	0.5141		-0.1177	0.3947		-0.1007	0.3932	
Smoking in household	0.1953	0.2921		0.0366	0.8125		<b>0.3551</b>	<b>0.0276</b>	*	0.0654	0.6159	
<b>Neighborhood environment</b>												
Sidewalk in front of building	-0.4612	0.4407		-0.5374	0.1240		-0.0762	0.6706		0.3165	0.3201	
Building condition	<b>-0.1934</b>	<b>0.0179</b>	*	-0.0334	0.7098		0.0294	0.6863		0.0549	0.3755	

Note: Significant level \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

**Table S7. Odd ratio and confidence interval of self-rated health perception by neighborhood type.**

	Type 1 (Traditional)			Type 2 (Work-unit)			Type 3 (Gated-community)			Type 4 (Relocated housing)		
	OR	2.50%	97.50%	OR	2.50%	97.50%	OR	2.50%	97.50%	OR	2.50%	97.50%
(Intercept)	67.672	8.337	549.301	6.514	1.073	39.560	1.463	0.305	7.027	0.948	0.249	3.606
<b>Demography</b>												

Gender	0.924	0.669	1.274	1.188	0.883	1.597	1.119	0.794	1.575	<b>1.452**</b>	<b>1.131</b>	<b>1.864</b>
Age	0.999	0.976	1.022	<b>1.023*</b>	<b>1.005</b>	<b>1.042</b>	<b>1.025*</b>	<b>1.005</b>	<b>1.044</b>	<b>1.024**</b>	<b>1.009</b>	<b>1.038</b>
Years living in Chengdu	1.010	1.000	1.021	0.998	0.989	1.006	1.006	0.997	1.016	<b>1.008*</b>	<b>1.001</b>	<b>1.015</b>
Years of education	<b>0.917***</b>	<b>0.874</b>	<b>0.962</b>	0.992	0.951	1.033	0.998	0.955	1.042	0.992	0.977	1.007
<u>Rural hukou</u>	<b>0.611*</b>	<b>0.403</b>	<b>0.925</b>	0.746	0.518	1.075	1.313	0.910	1.895	<b>1.475**</b>	<b>1.115</b>	<b>1.950</b>
Chengdu hukou	<b>0.442***</b>	<b>0.299</b>	<b>0.654</b>	0.844	0.578	1.232	1.236	0.865	1.768	0.962	0.727	1.273
Household income level	1.174	0.845	1.631	<b>0.750*</b>	<b>0.583</b>	<b>0.964</b>	1.068	0.829	1.376	0.974	0.802	1.184
Chance of getting injured												
at work	0.976	0.916	1.041	1.020	0.971	1.071	1.018	0.969	1.069	1.004	0.965	1.045
Years of working	1.012	0.990	1.035	<b>1.018*</b>	<b>1.000</b>	<b>1.035</b>	0.989	0.971	1.006	0.994	0.981	1.007
Marital status	0.785	0.571	1.079	1.041	0.748	1.448	0.742	0.536	1.027	0.987	0.763	1.278
Household size	1.067	0.948	1.201	0.923	0.828	1.030	1.071	0.981	1.170	0.990	0.913	1.074
<b>Lifestyle and Health Awareness</b>												
Air quality perception	1.090	0.936	1.269	<b>1.295***</b>	<b>1.144</b>	<b>1.464</b>	<b>1.218*</b>	<b>1.048</b>	<b>1.417</b>	1.058	0.945	1.184
Smoking	0.885	0.588	1.334	1.054	0.723	1.536	0.723	0.480	1.090	0.987	0.724	1.346
Hours of weekly exercise	1.004	0.981	1.028	<b>0.975*</b>	<b>0.951</b>	<b>1.000</b>	0.990	0.975	1.005	0.999	0.987	1.011
Health insurance	0.927	0.603	1.424	0.960	0.719	1.283	1.200	0.786	1.831	<b>1.358*</b>	<b>1.036</b>	<b>1.780</b>
Familiarity to asthma	1.090	0.921	1.292	0.934	0.809	1.077	1.135	0.992	1.299	1.005	0.897	1.125
Willing to pay for asthma												
treatment	1.008	0.773	1.314	1.205	0.938	1.549	0.870	0.684	1.106	0.925	0.760	1.126
Daily cooking time in												
family	1.076	0.940	1.233	1.025	0.887	1.184	0.934	0.839	1.040	1.013	0.923	1.111
<b>Indoor environment</b>												
<u>Fuel use - LPG</u>	1.316	0.643	2.695	1.041	0.614	1.765	<b>0.448*</b>	<b>0.261</b>	<b>0.751</b>	0.949	0.617	1.457
Fuel use - natural gas	1.228	0.737	2.047	1.140	0.760	1.709	0.733	0.466	1.152	1.297	0.839	2.005
Fuel use - electricity	0.940	0.683	1.295	1.155	0.890	1.498	1.169	0.859	1.592	0.798	0.635	1.002
<u>Fuel use - coal</u>	0.432	0.078	2.393	1.572	0.743	3.327	0.569	0.089	3.621	0.858	0.511	1.441
Hours of daily natural												
ventilation	0.983	0.964	1.004	1.011	0.997	1.026	<b>1.021*</b>	<b>1.005</b>	<b>1.038</b>	<b>1.016*</b>	<b>1.003</b>	<b>1.030</b>
Air conditioner	<b>0.670*</b>	<b>0.489</b>	<b>0.917</b>	0.905	0.671	1.222	0.889	0.677	1.167	0.904	0.717	1.140
Smoking in household	1.216	0.844	1.752	1.037	0.765	1.406	<b>1.426*</b>	<b>1.040</b>	<b>1.955</b>	1.068	0.826	1.380
<b>Neighborhood environment</b>												
<u>Sidewalk in front of</u>												
<u>building</u>	0.631	0.194	2.051	0.584	0.294	1.160	0.927	0.651	1.319	1.372	0.734	2.566
Building condition	<b>0.824*</b>	<b>0.703</b>	<b>0.967</b>	0.973	0.908	1.042	1.030	0.892	1.189	1.056	0.935	1.193

Note: Significant levels \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

### List S1. Questions used in the survey and given possible answers for multiple choice questions

1. What is your health?  
*Scale from 1 to 5, with 5 is the worst.*
2. What is your gender?  
*Male (1); Female (2)*

3. How old are you?
4. How many years of education did you receive?
5. Is your resident registration rural or non-rural?  
*Rural registration (1); Non-rural registration (0)*
6. Are you a registered resident of Chengdu?  
*Yes (1); No (0)*
7. (For the inspector) Please estimate the income level of the household.  
*Low income (1); Average income (2); Mid-high income (3); High income (4)*
8. What is your current employment status?  
*Currently working or employed including temporary employment; Retired; Waiting for job or unemployed; Full-time homemaker; Full-time student.*
9. What is your current (last) working environment?  
*Indoors (in an office or factory); Outdoors (including in a vehicle); Underground or underwater.*
10. How many years of working experience do you have by the end of 2015?
11. What do you think is the chance of getting injured at your current (last) work?  
*Scale from 0 to 10, with 10 is the highest likelihood.*
12. What is your current marital status?  
*Currently married (1); Not currently married (0).*
13. How many people are living with you in this household?
14. How do you think about the average air quality in Chengdu?  
*Scale from 1 to 5, with 5 is the worst.*
15. Do you smoke currently?  
*Yes (1); No (0).*
16. How many hours on average do you exercise?
17. Do you have any kind of health insurance?  
*Yes (1); No (0).*
18. Are you familiar with asthma?  
*Very familiar (1); A little (2); Not familiar (3); Not familiar at all (4).*
19. The cost is X yuan and is effective for one year, would you participate in this treatment?  
*Yes (1); No (0).*
20. How many total hours do you and other members of your household spend cooking?
21. Do you use this kind of fuel for cooking in your residence: LPG?  
*Yes (1); No (0).*
22. Do you use this kind of fuel for cooking in your residence: Natural gas?  
*Yes (1); No (0).*
23. Do you use this kind of fuel for cooking in your residence: Electricity?  
*Yes (1); No (0).*
24. Do you use this kind of fuel for cooking in your residence: Coal?  
*Yes (1); No (0).*
25. In the current season (spring), how many hours per day of natural ventilation?
26. Are air conditioners typically used anywhere in your residence? (spring)  
*Yes (1); No (0).*
27. Does anybody in your household smoke?  
*Yes (1); No (0).*
28. (For the inspector) Is there a sidewalk in front of the interviewee's house or courtyard?

*Yes (1); No (0).*

29. (For the inspector) What kind of building was the interviewee living in?

*Flat (1); 2-6 storied building (2); More than 6-storied building (3).*

30. (For the inspector) The condition of the building of the interviewee, comparing to other buildings in the city?

*Good (1); Average (3); Bad (5).*

31. (For the inspector) The neighborhood of the interviewee's house belongs to which of the following situations?

*Dormitory of the work unit (1); Normal residential area (2); Government residential area (3); Dormitory of worker of factory or farm (4); High level (luxurious) residential area (5); Temporary dormitory at construction site (6).*

The research is a major component of a multi-component initiative to investigate urban land use, transportation planning, mobile-source air pollution, population health risk, economic effects, and related policy in Chengdu, Sichuan, P. R. China. The Research Center for Contemporary China (RCCC) at Peking University conducted the sampling and fieldwork.

There are two questionnaires in this study. One is “public health survey questionnaire”, and the other is “environmental protection and transportation survey questionnaire”.