

## Online Supplementary Materials

**Table S1.** Respondent Characteristics compared to NYC population (2009-2013 American Community Survey 5 year estimates). It is assumed that each respondent comes from a different household.

	New York City (%) <sup>1</sup>	Sample (N) (%)
Total Population	8,268,999	
Total Population 18+	6,492,026 (100%)	706 (100%)
Total Households	3,070,298	
Total Housing Units	3,380,513	
<b>Gender</b>		
Female	3,463,149 (53.3%)	372 (52.7%)
Male	3,028,877 (46.7%)	334 (47.3%)
<b>Age Group</b>		
<18	1,776,973	
18–24	851,127 (13.1%)	93 (13.2%)
25–34	1,428,313 (22.0%)	148 (21.0%)
35–44	1,162,739 (17.9%)	125 (17.7%)
45–54	1,110,653 (17.1%)	121 (17.1%)
55–59	487,155 (7.5%)	59 (8.4%)
60–64	428,646 (6.6%)	48 (6.8%)
65–74	553,911 (8.5%)	94 (13.3%)
75–84	322,994 (5.0%)	14 (2.0%)
85+	146,488 (2.3%)	4 (0.6%)
<b>Special Age Groups</b>		
60+	1,452,039 (22.4%)	160 (22.7%)
65+	1,023,393 (15.8%)	112 (15.9%)
75+	469,482 (7.2%)	18 (2.6%)
<b>Race<sup>2</sup></b>		
White only	2,734,318 (33.1%)	457 (64.7%)
Black only	1,877,183 (22.7%)	70 (9.9%)
Hispanic/Latino only	2,371,116 (28.7%)	56 (7.9%)
Asian only	1,069,960 (12.9%)	77 (10.9%)
Mixed	131,465 (1.6%)	36 (5.1%)
Other	69,290 (0.8%)	..
Unsure	..	10 (1.4%)
<b>Combined Annual Household Income<sup>3</sup></b>		
Less than \$15,000	508,763 (16.6%)	50 (7.1%)
\$15,000 – \$24,999	328,700 (10.7%)	52 (7.4%)
\$25,000 – \$49,999	643,772 (21.0%)	122 (17.3%)
\$50,000 – \$74,999	481,251 (15.7%)	161 (22.8%)
\$75,000 – \$99,999	334,299 (10.9%)	136 (19.3%)
\$100,000 – \$149,999	384,485 (12.5%)	101 (14.3%)
\$150,000 – \$199,999	169,393 (5.5%)	52 (7.4%)
\$200,000 or more	219,635 (7.2%)	32 (4.5%)
<b>Highest Educational Qualifications</b>		
High School or less	2,874,808 (44.3%)	95 (13.5%)
Some College	1,526,629 (23.5%)	158 (22.4%)
College	1,295,222 (20.0%)	284 (40.2%)
Graduate or Professional	795,367 (12.3%)	169 (23.9%)
<b>Housing Tenure<sup>3,4</sup></b>		
Owner	989,708 (32.2%)	362 (51.3%)
Renter	2,080,590 (67.8%)	344 (48.7%)
<b>Number of Bedroom in Home<sup>4</sup></b>		
No Bedroom (studio)	257,544 (7.6%)	52 (7.4%)
1 Bedroom	1,052,550 (31.1%)	169 (23.9%)
2 Bedrooms	1,078,866 (31.9%)	188 (26.6%)
3 Bedrooms	734,208 (21.7%)	200 (28.3%)
4 Bedrooms	174,868 (5.2%)	76 (10.8%)
5 or more Bedrooms	82,477 (2.4%)	21 (3.0%)
<b>Household Size (Number of people sharing the same Residence)<sup>3</sup></b>		
1 person	999,941 (32.6%)	169 (23.9%)
2 people	854,715 (27.8%)	242 (34.3%)
3 people	496,493 (16.2%)	103 (14.6%)
4 people	386,911 (12.6%)	134 (19.0%)
5 or more people	332,238 (10.8%)	58 (8.2%)
<b>Borough<sup>5</sup></b>		
Bronx	1,438,159 (16.9%)	77 (10.9%)
Brooklyn	2,621,793 (30.9%)	189 (26.8%)
Manhattan	1,636,268 (19.3%)	199 (28.2%)
Queens	2,321,580 (27.3%)	177 (25.1%)
Staten Island	473,279 (5.6%)	64 (9.1%)

Notes: 1. All percentage is with respect to total population 18+ unless otherwise noted

2. Percentage is with respect to total population

3. Percentage is with respect to total households

4. Percentage is with respect to total housing units

5. Percentage is with respect to census estimate for 2014 total NYC population (8,4910,798) (information from NYC Dept. of City planning, <http://www.nyc.gov/html/dcp/html/census/popcur.shtml>)

**Table S2.** Time spent at home and in bedroom

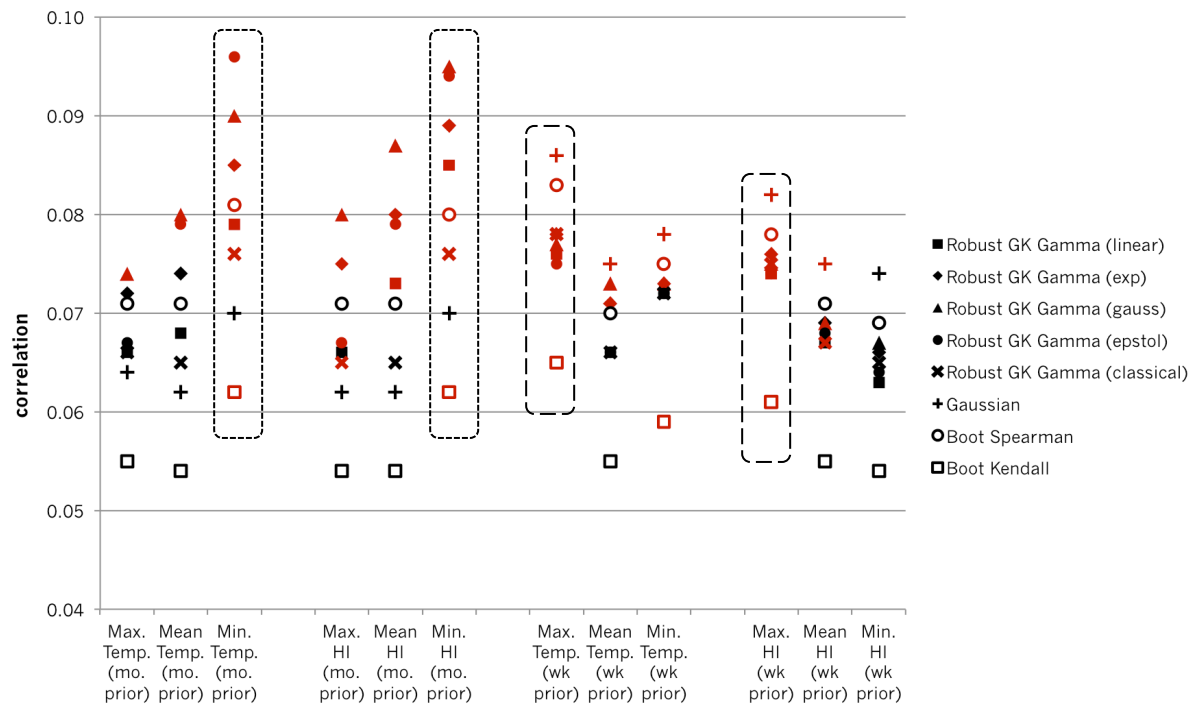
<b>Typical daily hours spent...</b>	<b>Whole sample (n=706)</b>	<b>65+ (n= 112)</b>
... at home	Mdn=14, 14.7±5.0	Mdn=18, 17.3 ± 5.9
... at home at night (8pm-8am)	Mdn=10, 9.4 ± 2.9	Mdn=12, 9.8 ± 3.5
... at home in bedroom (excl. studio residents)	Mdn=9.5, 10.3±3.6 (n=654)	Mdn=9, 9.7 ± 3.2 (n=105)

**Table S3. “Overtime” AC users and fan users any different from other AC/fan users?**

Characteristics	Pearson’s Chi-Square ( $\chi^2$ ) / Kruskal-Wallis ( $H$ ) Tests	
	“Overtime” AC users vs. other AC users	“Overtime” fan users vs. other fan users
Gender	$\chi^2(1)=0.93, p=0.335$	$\chi^2(1)=3.52, p=0.060$
Age	$H(1)=0.004, p=0.945$	$H(1)=0.079, p=0.779$
Highest education attainment	$\chi^2(3)=2.26, p=0.519$	$\chi^2(3)=6.43, p=0.092$
Employment status	$\chi^2(5)=1.00, p=0.962$	$\chi^2(5)=5.82, p=0.324$
Annual combined household income	$\chi^2(5)=3.43, p=0.633$	$\chi^2(5)=9.78, p=0.082$
Financial burden of AC use	$\chi^2(4)= 20.93, p=0.0003^{***}$	$\chi^2(4)=5.12, p=0.275$
Borough	$\chi^2(4)=4.40, p=0.354$	$\chi^2(4)=1.91, p=0.751$
Housing tenure	$\chi^2(1)=0.34, p=0.557$	$\chi^2(1)=2.15, p=0.142$
Residence type	$\chi^2(1)=1.91, p=0.167$	$\chi^2(1)=0.071, p=0.791$
AC bill responsibility	$\chi^2(2)=2.19, p=0.335$	$\chi^2(2)=4.35, p=0.114$
Home ventilation knowledge	$\chi^2(2)=0.98, p=0.613$	$\chi^2(2)=4.23, p=0.120$
Time spent at home	$H(1)=0.18, p=0.668$	$H(1)=3.44, p=0.064$
Time spent in bedroom	$H(1)=1.54, p=0.215$	$H(1)=3.57, p=0.059$

**Table S4. Central/Split System AC users and ceiling fan users any different from other AC/fan users?**

Characteristics	Pearson's Chi-Square ( $\chi^2$ ) / Kruskal-Wallis ( $H$ ) Tests	
	Central/Split System AC users	Ceiling fan users
	vs. other AC users	vs. other fan users
Gender	$\chi^2(1)=0.83, p=0.362$	$\chi^2(1)=0.87, p=0.351$
Age	$H(1)=0.37, p=0.540$	$H(1)=0.93, p=0.334$
Highest education attainment	$\chi^2(3)=3.38, p=0.336$	$\chi^2(3)=2.19, p=0.533$
Employment status	$\chi^2(5)=10.86, p=0.054$	$\chi^2(5)=9.81, p=0.081$
Annual combined household income	$\chi^2(5)=24.40, p<.001^{***}$	$\chi^2(5)=13.80, p=0.017^*$
Financial burden of AC use	$\chi^2(4)=5.27, p=0.260$	$\chi^2(4)=1.01, p=0.908$
Borough	$\chi^2(4)=49.67, p<0.0001^{****}$	$\chi^2(4)=19.70, p=0.00057^{***}$
Housing tenure	$\chi^2(1)=30.59, p<0.0001^{****}$	$\chi^2(1)=28.95, p<0.0001^{****}$
Residence type	$\chi^2(1)=10.46, p=.0012^{**}$	$\chi^2(1)= 22.20, p<0.0001^{****}$
Residence-tenure type	$\chi^2(1)=31.44, p<0.0001^{****}$	$\chi^2(3)=33.98, p<0.0001^{****}$
AC bill responsibility	$\chi^2(2)=40.46, p<0.0001^{****}$	$\chi^2(2)= 29.40, p<0.0001^{****}$
Home ventilation knowledge	$\chi^2(2)= 2.59, p=0.274$	$\chi^2(2)=4.75, p=0.093$
Time spent at home	$H(1)= 3.25, p=0.071$	$H(1)= 0.0008, p=0.978$
Time spent in bedroom	$H(1)= 9.27, p=0.002^{**}$	$H(1)= 0.18, p=0.669$



**Figure S1.** Association strengths between bedroom thermal satisfaction of the month prior to survey completion and outdoor meteorological variables using a range of non-parametric correlation methods. Red indicates  $p < .05$  or where confidence interval (95%) does not cross 0. The correlations are higher and more significant with the minimum temperature and HI of the month prior (short dashed boxes), and with maximum temperature and HI of the week prior (long dashed boxes).

**Table S5.** Detailed statistics for the effects of demographic, socioeconomic, personal, and housing characteristics on bedroom thermal satisfaction.

Variables <i>(median value corresponds to the Likert Scale of satisfaction; 1= very unsatisfied; 7 = very satisfied)</i>	Mann–Whitney U Test (W) Kruskal-Wallis Test (H) Statistics <sup>1</sup>	Post hoc Pairwise Comparison Statistics <sup>2</sup> <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<b>Demographic Variables</b>			
<u>Gender</u> Male (Mdn = 5) vs. Female (Mdn = 5)	$W = 64198$ $p = 0.433$		$r = .03$
<u>Age<sup>3</sup></u> <b>18 + but &lt; 65 (Mdn = 5) vs. 65+ (Mdn = 6)</b>	$W = 23355$ $p < .0001$		$r = .19$ ****
<u>Highest Education Qualification</u> High School or Less (Mdn = 5) vs. Some College (Mdn = 5) College (Mdn = 5) Graduate or Professional (Mdn = 5)	<i>(comparison against "High School or Less")</i> $H(3) = 3.11$ $p = 0.375$		
<u>Employment Status</u> <b>Employed or Self-Employed (Mdn = 5) vs.</b> Homemaker (Mdn = 5) <b>Retired (Mdn = 6)</b> Student (Mdn = 5) <b>Unemployed or Disabled (Mdn = 4)</b>		$W = 20231$ $p < .001$	$r = .15$ ***
Homemaker (Mdn = 5) vs. <b>Retired (Mdn = 6) vs.</b> Student (Mdn = 5) <b>Unemployed or Disabled (Mdn = 4)</b>	<i>(multiple comparisons)</i> $H(4) = 29.25$ $p < .0001$	$W = 18499$ $p < .01$	$r = .13$ **
<b>Retired (Mdn = 6) vs.</b> Student (Mdn = 5) vs. <b>Unemployed or Disabled (Mdn = 4)</b>		$W = 3542$ $p < .001$ $W = 5204$ $p < .0001$	$r = .27$ *** $r = .34$ ****
<u>Combined Annual Household Income<sup>4</sup></u> <b>&lt; \$25k (Mdn = 5) vs.</b> \$25k – \$50k (Mdn = 5) \$50k – \$75k (Mdn = 5) \$75k – \$100k (Mdn = 5) <b>&gt; \$100k (Mdn = 5)</b>	<i>(comparison against "&lt; \$25k")</i> $H(4) = 10.35$ $p < .05$	$W = 7628$ $p < .01$	$r = .16$ **

Variables <i>(median value corresponds to the Likert Scale of satisfaction; 1= very unsatisfied; 7 = very satisfied)</i>	Mann-Whitney U Test (W) Kruskal-Wallis Test (H) Statistics <sup>1</sup>	Post hoc Pairwise Comparison Statistics <sup>2</sup> <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<u>Financial Burden of AC Use</u>			
<b>To a very great extent (Mdn = 5) vs.</b> To a fairly great extent (Mdn = 5) To a moderately great extent (Mdn = 5) To a small extent (Mdn = 5) <b>To a very small extent (Mdn = 6)</b>	<i>(comparison against "To a v. great extent")</i> $p < .001$ $H(4) = 49.46$	<b><math>W = 9109</math></b> <b><math>p &lt; .0001</math></b>	<b><math>r = .32^{****}</math></b>
<u>Housing Tenure</u>			
<b>Rent (Mdn = 5) vs. Own (Mdn = 5)</b>	<b><math>W = 51186</math></b> <b><math>p &lt; .0001</math></b>		<b><math>r = .16^{****}</math></b>
<u>Race</u>			
White (Mdn= 5) vs.  Black (Mdn= 5) vs.  Asian (Mdn= 5) vs.  Hispanic (Mdn= 5) vs.	Black (Mdn= 5) Asian (Mdn= 5) Hispanic (Mdn= 5) Mixed or Unsure (Mdn = 5)  Asian (Mdn= 5) Hispanic (Mdn= 5) Mixed or Unsure (Mdn = 5)  Hispanic (Mdn = 5) Mixed or Unsure (Mdn = 5)  Mixed or Unsure (Mdn = 5)	<i>(multiple comparisons)</i> $p = 0.179$ $H(4) = 6.29$	
<b>Personal factors</b>			
<u>BMI</u>			
Underweight (Mdn= 5) vs.  Normal (Mdn= 5) vs.  Overweight (Mdn= 5) vs.	Normal (Mdn = 5) Overweight (Mdn = 5) Obese (Mdn = 6)  Overweight (Mdn = 5) Obese (Mdn = 6)  Obese (Mdn = 6)	<i>(multiple comparisons)</i> $p = 0.280$ $H(3) = 3.83$	

Variables <i>(median value corresponds to the Likert Scale of satisfaction; 1= very unsatisfied; 7 = very satisfied)</i>	Mann-Whitney U Test (W) Kruskal-Wallis Test (H) Statistics <sup>1</sup>	Post hoc Pairwise Comparison Statistics <sup>2</sup> <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<u>Self-reported physical health</u>			
<b>Excellent (Mdn= 6) vs.</b>	<b>Very Good (Mdn = 5) Good (Mdn = 5) Fair or Poor (Mdn = 5)</b>	<i>(comparison against "Excellent")</i> $H(3) = 22.06$ $p < .0001$	$W = 20282$ $W = 17402$ $W = 5681$ $p < .001$ $p < .001$ $p < .0001$ $r = .17$ *** $r = .16$ *** $r = .29$ ****
<u>Self-reported quality of life</u>			
<b>Excellent (Mdn= 6) vs.</b>	<b>Very Good (Mdn = 5) Good (Mdn = 5) Fair or Poor (Mdn = 4)</b>	<i>(comparison against "Excellent")</i> $H(3) = 45.15$ $p < .0001$	$W = 18137$ $W = 15817$ $W = 5855$ $p < .0001$ $p < .0001$ $p < .0001$ $r = .20$ **** $r = .34$ **** $r = .41$ ****
<u>Self-Report acclimatization to NYC summer</u>			
<b>Not acclimatized (Mdn = 5) vs. Acclimatized (Mdn = 5)</b>		$W = 27503$ $p < .0001$	$r = .18$ ****
<u>Knowledgeable about ventilation at home</u>			
<b>Very knowledgeable (Mdn = 6) vs.</b>	<b>Moderately knowledgeable (Mdn = 5) Somewhat knowledgeable (Mdn = 5) Slightly or not at all knowledgeable (Mdn = 5)</b>	<i>(comparison against "V. knowledgeable")</i> $H(3) = 36.05$ $p < .0001$	$W = 16484$ $W = 17718.5$ $W = 10513$ $p < .0001$ $p < .0001$ $p < .0001$ $r = .21$ **** $r = .27$ **** $r = .32$ ****
<b>Residence and Bedroom Characteristics</b>			
<u>Residence Type</u>			
<b>Apartment (Mdn = 5) vs. House (Mdn = 5)</b>		$W = 50590$ $p < .001$	$r = .14$ ***
<u>Residence-tenure type</u>			
<b>Apt Renter (Mdn = 5) vs.</b>	<b>House Owner (Mdn = 6)</b>	<i>(multiple comparisons)</i> $H(3) = 20.88$ $p < .001$	$W = 26543$ $p < .0001$ $r = .20$ ****
Apt Owner (Mdn = 5) vs.	House Renter (Mdn = 5)		
House Renter (Mdn = 5) vs.	House Owner (Mdn = 6)		
<u>Bedroom on top floor of building (apt. only)</u>			
Not on top floor (Mdn = 5) vs. On top floor (Mdn = 5)		$W = 14362$ $p = 0.689$	$r = .02$



<b>Variables</b> <i>(median value corresponds to the Likert Scale of satisfaction; 1= very unsatisfied; 7 = very satisfied)</i>	<b>Mann-Whitney U Test (W) Kruskal-Wallis Test (H) Statistics<sup>1</sup></b>	<b>Post hoc Pairwise Comparison Statistics<sup>2</sup></b> <i>(only significant results shown)</i>	<b>Effect Size</b> <i>(significant results in red)</i>
<p><u>Number of bedrooms in home</u> Studio (Mdn= 5) vs.</p> <p style="margin-left: 100px;">1 Bedroom (Mdn= 5) 2 Bedrooms (Mdn= 5) 3 Bedrooms (Mdn= 5) 4+ Bedrooms (Mdn= 5)</p>	<p><i>(comparison against "Studio")</i> <math>H(4) = 2.11</math></p>	<p><math>p=0.715</math></p>	
<p><u>Amount of direct sunlight in bedrooms</u> No direct sunlight (Mdn= 5) vs.</p> <p style="margin-left: 100px;">A little direct sunlight (Mdn= 5) Some direct sunlight (Mdn= 5) A lot of direct sunlight (Mdn= 6)</p>	<p><i>(comparison against "No direct sunlight")</i> <math>H(3) = 4.27</math></p>	<p><math>p=0.233</math></p>	

1. Mann-Whitney U Tests were performed for variables with only 2 groups; Kruskal-Wallis Tests for variables with 3+ groups. Kruskal-Wallis (KW) Test is also known as one-way ANOVA on ranks (i.e. a non-parametric counterpart to one-way independent ANOVA) and produces the H statistics, which is of Chi-squared distribution. KW test only informs that a difference exists among groups, but does not indicate which group(s) differ from others; hence post hoc tests (multiple pair-wise comparisons) are required (Siegel and Castellan 1988).

2. Mann-Whitney U Tests for pairwise comparisons were performed only if the overall Kruskal-Wallis Test and the specific pair were significant at least at  $\alpha=0.05$ . Post-hoc tests were performed for multiple groups, unless the variable is clearly ordinal where a "control" can be sensibly identified. In this case, two-tailed comparison against the "control" (first category listed) was done instead. This more focused comparison helps reduce Type I error.

3. Prior Kruskal-Wallis tests using age groups showed significant pairwise differences only in comparisons against the age group "65+"

4. Assuming all respondents come from different households

**Table S6.** Detailed statistics for the effects of chosen heat-coping strategies on bedroom thermal satisfaction.

Usage Pattern <i>(median value corresponds to the Likert Scale of satisfaction; 1 = very unsatisfied; 7 = very satisfied)</i>	Mann–Whitney U Test (W) Kruskal-Wallis Test (H) Statistics	Post hoc Pairwise Comparison Statistics <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<u>Most frequently used strategy</u>			
<p><b>Turn on AC (cooling) (Mdn = 6) vs. Turn on fans (Mdn = 4)</b>  <b>Turn on AC (cooling) (Mdn = 6) vs. Personal modifications (Mdn = 5)</b>  <i>[not significant pairings by post hoc tests omitted]</i></p>	<p><i>(multiple comparisons)</i>  <math>p &lt; .001</math>  <math>H(5) = 57.14^{***}</math></p>	<p><math>W = 33130</math>    <math>p &lt; .0001</math>  <math>W = 23484</math>    <math>p &lt; .001</math></p>	<p><math>r = .30^{****}</math>  <math>r = .16^{***}</math></p>
<u>Number of strategies used</u>			
<p>1 strategy (Mdn = 6) vs. 2 strategies (Mdn = 5)  <b>1 strategy (Mdn = 6) vs. 3 strategies (Mdn = 5)</b>  <b>1 strategy (Mdn = 6) vs. 4+ strategies (Mdn = 5)</b></p>	<p><i>(comparison against "1 strategy")</i>  <math>p &lt; .001</math>  <math>H(3) = 21.73</math></p>	<p><math>W = 17936</math>    <math>p &lt; .01</math>  <math>W = 31878</math>    <math>p &lt; .0001</math></p>	<p><math>r = .14^{**}</math>  <math>r = .20^{****}</math></p>
<u>Thermal environment-modifying strategies</u>			
<p><b>AC(cooling) only (Mdn = 6) vs. Other combinations (Mdn = 5)</b>  <b>AC(cooling) only (Mdn = 6) vs. Fan &amp; Window (Mdn = 5)</b>  <b>AC(cooling) only (Mdn = 6) vs. Fan only (Mdn = 4)</b>  <b>AC(cooling) only (Mdn = 6) vs. None of the environ. mod. Strat. (Mdn = 4)</b>  <b>AC(cooling) &amp; Fan (Mdn = 5) vs. Fan &amp; Window (Mdn = 5)</b>  <b>AC(cooling) &amp; Fan (Mdn = 5) vs. Fan only (Mdn = 4)</b>  <i>[not significant pairings by post hoc tests omitted]</i></p>	<p><i>(multiple comparisons)</i>  <math>p &lt; .001</math>  <math>H(6) = 67.20^{***}</math></p>	<p><math>W = 20000</math>    <math>p &lt; .0001</math>  <math>W = 11973</math>    <math>p &lt; .0001</math>  <math>W = 12534</math>    <math>p &lt; .0001</math>  <math>W = 8828</math>    <math>p &lt; .001</math>  <math>W = 3461</math>    <math>p &lt; .01</math>  <math>W = 3642</math>    <math>p &lt; .0001</math></p>	<p><math>r = .24^{****}</math>  <math>r = .27^{****}</math>  <math>r = .31^{****}</math>  <math>r = .18^{***}</math>  <math>r = .26^{**}</math>  <math>r = .32^{****}</math></p>
<u>AC (cooling or fan) Use</u>			
<p><b>Did not use/have AC in bedroom (Mdn = 4) vs. Used AC (Mdn = 5)</b></p>	<p><math>W = 23355</math>    <math>p &lt; .0001</math></p>		<p><math>r = .27^{****}</math></p>

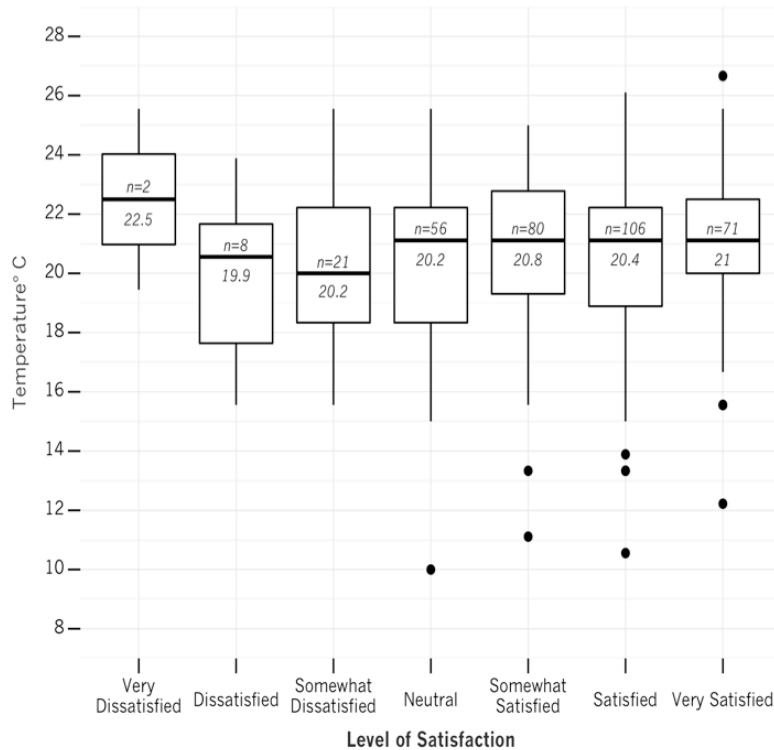
**Table S7.** Detailed statistics for the effects of AC usage patterns on bedroom thermal satisfaction.

Usage Pattern <i>(median value corresponds to the Likert Scale of satisfaction; 1= very unsatisfied; 7 = very satisfied)</i>	Sub-sample size	Kruskal-Wallis Test Statistics	Post hoc Pairwise Comparison Statistics <sup>2</sup> <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<u>AC Type</u>				
<b>Window/Wall Unit (Mdn = 5) vs. Central/Split System (Mdn = 6)</b> Window/Wall Unit (Mdn = 5) vs. Portable /Other (Mdn = 5) Central/Split System (Mdn = 6) vs. Portable /Other (Mdn = 5)	n=602 <i>(those w/ AC installed in BR)</i>	<i>(multiple comparison)</i> $H(2) = 9.49^{**}$ $p < .01$	<b><math>W = 26017</math></b> <b><math>p &lt; .01</math></b>	<b><math>r = .12^{**}</math></b>
<u>Energy Saver Mode</u>				
Never vs. Rarely Never vs. Occasionally Never vs. Frequently Never vs. Always	n=366 <i>(those have this function available)</i>	<i>(comparison against "Never")</i> $H(4) = 4.90$ $p = 0.298$		
<u>Frequency of Use</u>				
All the time (Mdn = 6) vs. Very frequently (Mdn = 6) All the time (Mdn = 6) vs. Frequently (Mdn = 5) All the time (Mdn = 6) vs. A moderate amount (Mdn = 5) <b>All the time (Mdn = 6) vs. Occasionally (Mdn = 5)</b> <b>All the time (Mdn = 6) vs. Rarely (Mdn = 5)</b>	n=513 <i>(those who used AC for cooling)</i>	<i>(comparison against "All the time")</i> $H(5) = 28.65^{***}$ $p < .001$	<b><math>W = 4888</math></b> <b><math>p &lt; .001</math></b> <b><math>W = 2693</math></b> <b><math>p &lt; .0001</math></b>	<b><math>r = .25^{***}</math></b> <b><math>r = .35^{****}</math></b>
<u>Period of Use</u>				
(Almost) always on vs. On prior to bedtime and off after waking up On prior to bedtime but off in the middle of the night On prior to bedtime but off when going to sleep On sometime during the night and off after waking up On prior to bedtime and off after waking up vs. On prior to bedtime but off in the middle of the night On prior to bedtime but off when going to sleep On sometime during the night and off after waking up On prior to bedtime but off when going to sleep vs. On prior to bedtime but off when going to sleep On sometime during the night and off after waking up On prior to bedtime but off when going to sleep vs. On sometime during the night and off after waking up	n=513 <i>(those who used AC for cooling)</i>	<i>(multiple comparison)</i> $H(4) = 13.73$ $p < .01$		

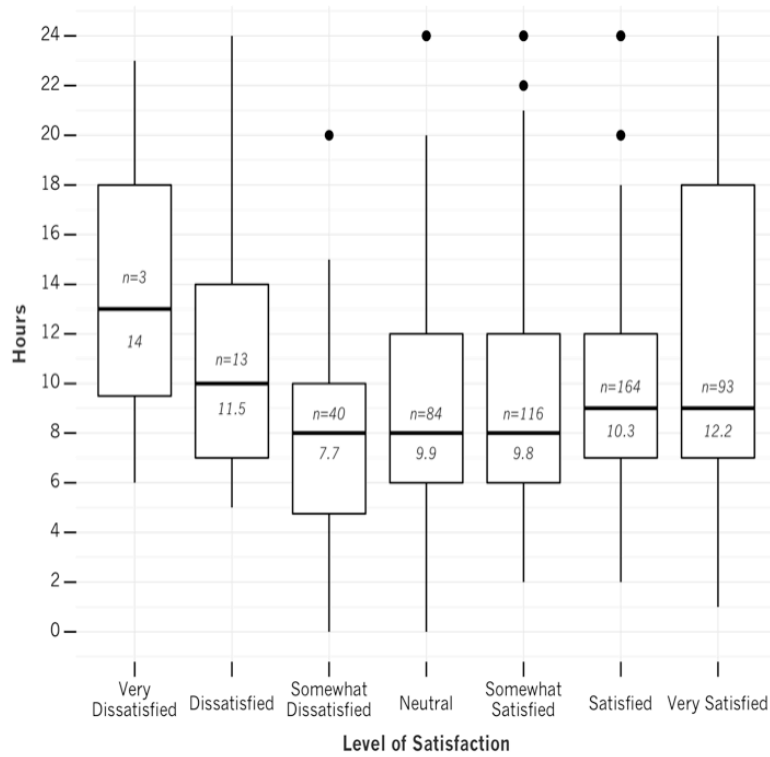
Usage Pattern <i>(median value corresponds to the Likert Scale of satisfaction; 1 = very unsatisfied; 7 = very satisfied)</i>	Sub-sample size	Kruskal-Wallis Test Statistics	Post hoc Pairwise Comparison Statistics <sup>2</sup> <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<u>AC Set Temperature*</u>	Very Dissatisfied vs. Dissatisfied Very Dissatisfied-Somewhat Dissatisfied Very Dissatisfied-Neutral Very Dissatisfied-Somewhat Satisfied Very Dissatisfied-Satisfied Very Dissatisfied-Very Satisfied	n=344 <i>(those who can set AC to specific temp.)</i>	<i>(comparison against "Very Dissatisfied")</i> p=0.649 H(6) = 4.21	
<u>Length of Use*</u>	Very Dissatisfied vs. Dissatisfied Very Dissatisfied-Somewhat Dissatisfied Very Dissatisfied-Neutral Very Dissatisfied-Somewhat Satisfied Very Dissatisfied-Satisfied Very Dissatisfied-Very Satisfied	n=513 <i>(those who used AC for cooling)</i>	<i>(comparison against "Very Dissatisfied")</i> p<.05 H(6) = 14.89	

\* variables flipped in order to perform KW test

No significant association between the respondents' thermal satisfaction and AC set temperature were found. Although the two respondents who were very dissatisfied with their bedroom thermal environment had higher set temperatures (Figure S2), there was no significant difference overall either by Kruskal-Wallis test or any of the non-parametric correlation methods. We also did not find a significant difference in terms of the length of average daily AC use by Kruskal-Wallis test. However, non-parametric correlation analyses suggested a small effect ( $r$  range 0.11-0.14, all  $p < .01$ ) that can be visualized in Figure S3. Disregarding the respondents who were dissatisfied or very dissatisfied, overall there is a slight increase in hours of use with levels of satisfaction.



**Figure S2.** Typical temperature set for AC in bedroom by bedroom thermal satisfaction (text labels indicate group sizes and group means)



**Figure S3.** Average length of AC (cooling) use by bedroom thermal satisfaction (text labels indicate group sizes and group means)

**Table S8.** Non-parametric correlations between AC set temperature, length of use, and bedroom thermal satisfaction

Non-parametric correlations	AC Set Temperature			Length of use		
	r	95% CI	est. p-value	r	95% CI	est. p-value
Boot Spearman's Rank	0.06	(-0.05, 0.17)		0.14	(0.05, 0.22)	
Boot Kendall's Tau	0.05	(-0.04, 0.13)		0.11	(0.04, 0.17)	
Robust GK Gamma Rank (linear)	0.05		0.279	0.13		0.002
Robust GK Gamma Rank (exp)	0.06		0.286	0.13		0.001
Robust GK Gamma Rank (gauss)	0.06		0.275	0.13		0.001
Robust GK Gamma Rank (epstol)	0.05		0.267	0.13		0.003
Robust GK Gamma Rank (classical)	0.05		0.239	0.13		0.002
Gaussian Rank	0.05	(-0.05, 0.16)		0.14	(0.05, 0.22)	

**Table S9.** Detailed statistics for the effects of electric fan usage patterns on bedroom thermal satisfaction.

Usage Pattern <i>(median value corresponds to the Likert Scale of satisfaction; 1 = very unsatisfied; 7 = very satisfied)</i>	Sub-sample size	Kruskal-Wallis Test Statistics	Post hoc Pairwise Comparison Statistics <i>(only significant results shown)</i>	Effect Size <i>(significant results in red)</i>
<u>Fan Type</u>				
<b>Used other types of fan (Mdn = 5) vs. Used ceiling fan (Mdn = 5)</b> <b>Used other types of fan (Mdn = 5) vs. Did not use fan (Mdn = 5)</b> Used ceiling fan (Mdn = 5) vs. Did not use fan (Mdn = 5)	n= 706	<i>(multiple comparisons)</i> $H(2) = 36.00^{***}$ $p < .001$	$W = 6272$ $p < .01$ $W = 29271$ $p < .0001$	$r = .19^{**}$ $r = .24^{****}$
<u>Number of Fans</u>				
1 Fan vs. 2 Fans 1 Fan vs. 3+ Fans 2 Fans vs. 3+ Fans	n= 278 <i>(those who used fans)</i>	<i>(multiple comparison)</i> $H(1) = 0.60$ $p = 0.743$		
<u>Frequency of Use</u>				
All the time (Mdn = 4) vs. Very frequently (Mdn = 5) All the time (Mdn = 4) vs. Frequently (Mdn = 5) All the time (Mdn = 4) vs. A moderate amount (Mdn = 5) All the time (Mdn = 4) vs. Occasionally (Mdn = 5) <b>All the time (Mdn = 4) vs. Rarely (Mdn = 6)</b>	n= 278 <i>(those who used fans)</i>	<i>(comparison against "All the time")</i> $H(5) = 12.27$ $p < .05$	$W = 232$ $p < .01$	$r = .11^{**}$
<u>Period of Use</u>				
(Almost) always on vs. On prior to bedtime and off after waking up On prior to bedtime but off in the middle of the night On prior to bedtime but off when going to sleep On sometime during the night and off after waking up On prior to bedtime and off after waking up vs. On prior to bedtime but off in the middle of the night On prior to bedtime but off when going to sleep On sometime during the night and off after waking up On prior to bedtime but off when going to sleep vs. On prior to bedtime but off when going to sleep On sometime during the night and off after waking up On prior to bedtime but off when going to sleep vs. On sometime during the night and off after waking up	n= 278 <i>(those who used fans)</i>	<i>(multiple comparisons)</i> $H(4) = 15.38$ $p < .01$		



