

| # | Feature | Code | Data Source | Description |
|----|----------------------|------------|------------------|--|
| 1 | hour | hour | Mobile App | The hour of a day (24-hour format) when participant sends the thermal comfort vote |
| 2 | age | age | Participants | Participant's age in years |
| 3 | weight | weight | | Participant's weight in kilograms (kg) |
| 4 | height | height | | Participant's height in meters (m) |
| 5 | gender | gender | | Participant's gender (1: male, 2: female) |
| 6 | air temperature | at | BiB Device | Average room air temperature in degrees Celsius (°C) |
| 7 | relative humidity | rh | | Average room relative humidity in percentage (%) |
| 8 | metabolic rate | met | Microsoft Band 2 | Participant's metabolic rate in metabolic equivalent (met) |
| 9 | clothing level | cl | Participants | Participant's clothing insulation/level plus the general office chair insulation |
| 10 | heart rate | hr | Microsoft Band 2 | Participant's hear rate in beats per minute (bpm) |
| 11 | skin temperature | st | | Participant's skin temperature in degrees Celsius (°C) |
| 12 | actual thermal index | ati (-3-2) | Participants | Participant's actual thermal comfort index, ranging from -3 to +2 |
| 13 | | ati (0-5) | | Since some algorithms cannot handle negative numbers, we convert ati (-3-2) to ati (0-5) by adding +3, ranging from 0 to 5 |
| 14 | | ati (-3-3) | | Participant's actual thermal comfort index, ranging from -3 to +3 |
| 15 | | ati (0-6) | | Since some algorithms cannot handle negative numbers, we convert ati (-3-3) to ati (0-6) by adding +3, ranging from 0 to 6 |

Feature correlation analysis between various features and thermal comfort index

Table 1 Pearson correlation coefficient r analysis

| Feature | *Coefficient r | p-value |
|-------------------|------------------|---------|
| skin temperature | 0.532 | <0.05 |
| air temperature | 0.485 | |
| heart rate | 0.248 | |
| clothing level | -0.236 | |
| relative humidity | 0.113 | |
| age | -0.059 | |
| hour | 0.058 | |
| height | -0.0055 | |
| metabolic rate | 0.017 | 0.271 |
| weight | 0.016 | 0.281 |
| gender | 0.014 | 0.353 |

*Coefficient r has the strong association if $0.5 \leq |r| \leq 1$, the medium association if $0.3 \leq |r| < 0.5$, and the weak association if $0 \leq |r| < 0.3$.