

QUESTIONNAIRE ON PERCEIVED INDOOR CLIMATE

1. Background

Q1 - What type of house do you live in?

- (1) ☐ Row house
- (2) ☐ Garden house

Q2 - In which neighborhood do you live?

Q3 - How long have you lived in the dwelling (how many years)?

- (1) ☐ One year or less
- (2) ☐ 2 to 5 years
- (3) ☐ 6 to 10 years
- (4) ☐ 11 to 20 years
- (5) ☐ 21 to 30 years
- (6) ☐ 31 years or more

Q4 - Has your house been renovated?

- (1) ☐ Yes, within the last 5 years
- (2) ☐ Yes, more than 5 years ago
- (3) ☐ No
- (4) ☐ I don't know

If yes, when was the renovation finished?

Q5 - Year: _____

Q6 - Month (if known): _____

Q7 - Are the living room's windows oriented towards the:

- (1) ☐ West
- (2) ☐ East
- (3) ☐ North
- (4) ☐ South
- (5) ☐ I don't know

Q8 - Are your bedroom's windows oriented towards the:

- (1) ☐ West
- (2) ☐ East
- (3) ☐ North
- (4) ☐ South
- (5) ☐ I don't know

Q9 - How many adults live in your house (over 15 years old)?

- (1) ☐ 1
- (2) ☐ 2
- (3) ☐ 3
- (4) ☐ 4
- (5) ☐ 5

Q10 - How many children live in your house (under 15 years old)?

Q11 - How old are you?

- (1) ☐ under 25
- (2) ☐ 26-40
- (3) ☐ 41-55
- (4) ☐ 56-70
- (5) ☐ over 71

2. Temperature conditions and heating

Are you satisfied with the temperature IN THE LIVING ROOM IN WINTER?

	Always too cold	In general too cold	Comfortable	In general too warm	Always too warm
Q12 - The temperature in the morning is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q13 - The temperature during the day is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q14 - The temperature in the evening is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

	Never a problem	Rarely a problem	Sometimes a problem	Often a problem	Always a problem
Q15 - The temperature varies a lot during the day	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q16 - There is a large temperature difference in the room	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Are you satisfied with the temperature IN THE LIVING ROOM IN SUMMER?

	Always too cold	In general too cold	Comfortable	In general too warm	Always too warm
Q17 - The temperature in the morning is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q18 - The temperature during the day is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q19 - The temperature in the evening is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

	Never a problem	Rarely a problem	Sometimes a problem	Often a problem	Always a problem
Q20 - The temperature varies a lot during the day	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q21 - There is a large temperature difference in the room	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Are you satisfied with the temperature IN YOUR BEDROOM IN WINTER?

	Always too cold	In general too cold	Comfortable	In general too warm	Always too warm
Q22 - The temperature in the morning is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q23 - The temperature during the day is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q24 - The temperature in the evening is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

	Never a problem	Rarely a problem	Sometimes a problem	Often a problem	Always a problem
Q25 - The temperature varies a lot during the day	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q26 - There is a large temperature difference in the room	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Are you satisfied with the temperature IN YOUR BEDROOM IN SUMMER?

	Always too cold	In general too cold	Comfortable	In general too warm	Always too warm
Q27 - The temperature in the morning is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q28 - The temperature during the day is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

	Always too cold	In general too cold	Comfortable	In general too warm	Always too warm
Q29 - The temperature in the evening is:	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

	Never a problem	Rarely a problem	Sometimes a problem	Often a problem	Always a problem
Q30 - The temperature varies a lot during the day	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q31 - There is a large temperature difference in the room	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
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Q32 - Comments:

What do you do if you are too cold IN WINTER?

	Never	Rarely	Sometimes	Often	Always
Q33 - I turn up the heat	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q34 - I close the blinds	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q35 - I turn on an extra heat source (electrical heater or similar)	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q36 - I adapt my clothing (f. ex I take up a blanket)	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q37 - Other, precise here:

What do you do if you are too cold IN SUMMER?

	Never	Rarely	Sometimes	Often	Always
Q38 - I turn up the heat	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q39 - I close the blinds	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q40 - I turn on an extra heat source (electrical heater or similar)	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q41 - I adapt my clothing (f. ex I take up a blanket)	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q42 - Other, precise here:

Q43 - Comments:

What do you do if you are too warm IN WINTER?

	Never	Rarely	Sometimes	Often	Always
Q44 - I turn down the heat	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q45 - I open one or several windows	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q46 - I close the blinds	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q47 - I use a fan	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q48 - I adapt my clothing	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q49 - Other, precise here:

What do you do if you are too warm IN SUMMER?

	Never	Rarely	Sometimes	Often	Always
Q50 - I turn down the heat	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q51 - I open one or several windows	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q52 - I close the blinds	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q53 - I use a fan	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q54 - I adapt my clothing	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q55 - Comments:

Q56 - Comments:

Q57 - What type of heating system do you have in the living room?

- (1) ☐ Radiators
- (2) ☐ Floor heating
- (3) ☐ Other system, precise here: _____(58)
- (4) ☐ None
- (5) ☐ I don't know

Q59 - What type of heating system do you have in your bedroom?

- (1) ☐ Radiators
- (2) ☐ Floor heating
- (3) ☐ Other system, precise here: _____(60)

- (4) ☐ None
- (5) ☐ I don't know

Are you satisfied with the heating system present in the living room?

	To a very low extent	To a low extent	To some extent	To a high extent	To a very high extent
Q61 - Is it easy to achieve the temperature you are wishing for?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q62 - Does the heating system react fast enough?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q63 - Do you have sufficient knowledge of how to use the heating system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q64 - Does anyone else in your household have sufficient knowledge of how to use the heating system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q65 - Are you interested in how the heating system works?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q66 - Are you satisfied with your heating consumption?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q67 - Would you like to have more or less control over your heating system in the living room?

- (1) ☐ Much less control (more automation)
- (2) ☐ Slightly less control (slightly more automation)
- (3) ☐ No change
- (4) ☐ Slightly more control (slightly less automation)
- (5) ☐ Much more control (less automation)

Are you satisfied with the heating system present in your bedroom?

	To a very low extent	To a low extent	To some extent	To a high extent	To a very high extent
Q68 - Is it easy to achieve the temperature you are wishing for?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q69 - Does the heating system react fast enough?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q70 - Do you have sufficient knowledge of how to use the heating system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q71 - Does anyone else in your household have sufficient knowledge of how to use the heating system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q72 - Are you interested in how the heating system works?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q73 - Are you satisfied with your heating consumption?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q74 - Would you like to have more or less control over your heating system in your bedroom?

- (1) ☐ Much less control (more automation)
- (2) ☐ Slightly less control (slightly more automation)
- (3) ☐ No change
- (4) ☐ Slightly more control (slightly less automation)
- (5) ☐ Much more control (less automation)

Q75 - Comments:

3. Air quality and ventilation

Are you satisfied with the air quality in your house?

	Never a problem	Rarely a problem	Sometimes a problem	Often a problem	Always a problem
Q76 - The air is too heavy	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q77 - The air is too dry	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q78 - The air is too humid	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q79 - The air smells bad	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q80 - There is too much dust in the air	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q81 - Other, precise here:

How often do you air the house by opening the windows at least 5 minutes?

	Several times a day	Once a day	Less than once a day
Q82 - In winter	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>
Q83 - In summer	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>

Q84 - Comments:

Q85 - Do you have a ventilation system in your house that changes the air automatically?

- (1) ☐ Yes
- (2) ☐ Yes, only in the bathroom
- (3) ☐ No
- (4) ☐ I don't know

Are you satisfied with the quality of the ventilation system in your house?

	Never a problem	Rarely a problem	Sometimes a problem	Often a problem	Always a problem	Non relevant
Q86 - The ventilation air is too cold	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>	(6) <input type="checkbox"/>
Q87 - The ventilation air is too warm	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>	(6) <input type="checkbox"/>
Q88 - The ventilation air smells bad	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>	(6) <input type="checkbox"/>
Q89 - There is dust in the ventilation air	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>	(6) <input type="checkbox"/>
Q90 - The ventilation creates draught	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>	(6) <input type="checkbox"/>
Q91 - The ventilation is noisy	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>	(6) <input type="checkbox"/>

Q92 - Other, precise here:

Q93 - If the ventilation creates draught /noise: where does the draught / noise disturb you the most?

Q94 - Comments:

	To a very low extent	To a low extent	To some extent	To a high extent	To a very high extent
Q95 - Is it easy to get fresh air in the house by using the ventilation system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q96 - Do you have sufficient knowledge of how to use the ventilation system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q97 - Does anyone else in your household have sufficient knowledge of how to use the ventilation system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q98 - Are you interested in how to use the ventilationsystem?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q99 - Are you satisfied with the energy consumption of the ventilation system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q100 - Are you overall satisfied with the ventilation system?	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q101 - Would you like to have more or less control over your ventilation system?

- (1) ☐ Much less control (more automation)
- (2) ☐ Slightly less control (slightly more automation)
- (3) ☐ No change
- (4) ☐ Slightly more control (slightly less automation)
- (5) ☐ Much more control (less automation)

Q102 - Comments:

4. Suggestions

Are you potentially interested in:

	To a very low extent	To a low extent	To some extent	To a high extent	To a very high extent
Q103 - Receiving advice about how to control the indoor climate	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q104 - Being able to visualize the temperature and the air quality in your home	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q105 - Being able to control heating and ventilation via an app	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q106 - Having a system that automatically detects possible failures of your building systems	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>
Q107 - Knowing how much energy you consume in comparison to your neighbors	(1) <input type="checkbox"/>	(2) <input type="checkbox"/>	(3) <input type="checkbox"/>	(4) <input type="checkbox"/>	(5) <input type="checkbox"/>

Q108 - Are you potentially interested in having an automatic system that supports the growth of green energy by adjusting your room temperature (the larger the temperature change, the larger the reduction of your heating bill)?

- (1) ☐ No
- (2) ☐ $\pm 1^{\circ}\text{C}$
- (3) ☐ $\pm 2^{\circ}\text{C}$
- (4) ☐ $\pm 3^{\circ}\text{C}$
- (5) ☐ $\pm 4^{\circ}\text{C}$

Q109 - Comments, other suggestions:

Would you like to participate in a face-to-face interview with some students and talk further about your satisfaction with your house and your indoor climate?

If so, please give your contact information below. They will be erased at the end of the study (latest June 2019).

(1) ☐ Yes

(2) ☐ No

If you would like to participate in the lottery, please give your name, your e-mail address or/and telephone number. Your contact information will be erased after the prizes are distributed.

First name and surname _____

E-mail address _____

Telephone number _____

Thank you very much for your answers!