

Studio 420-419 Post-Occupancy Evaluation

ARCH273 Environmental Systems
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INDICATIVE - We were tasked with researching the comfort and air quality of the studio space marked as 419 – 420. The research question that we had decided to investigate is whether the Thermal Comfort and Indoor Air Quality levels were within the correct standards and reached the satisfaction levels of the occupants within space.

INVESTIGATIVE - Our initial Hypothesis is that “Due to the larger size of the studio space in comparison to some of the smaller classrooms there will be a larger amount of occupant dissatisfaction in the (TC) levels and (IAQ) levels”.

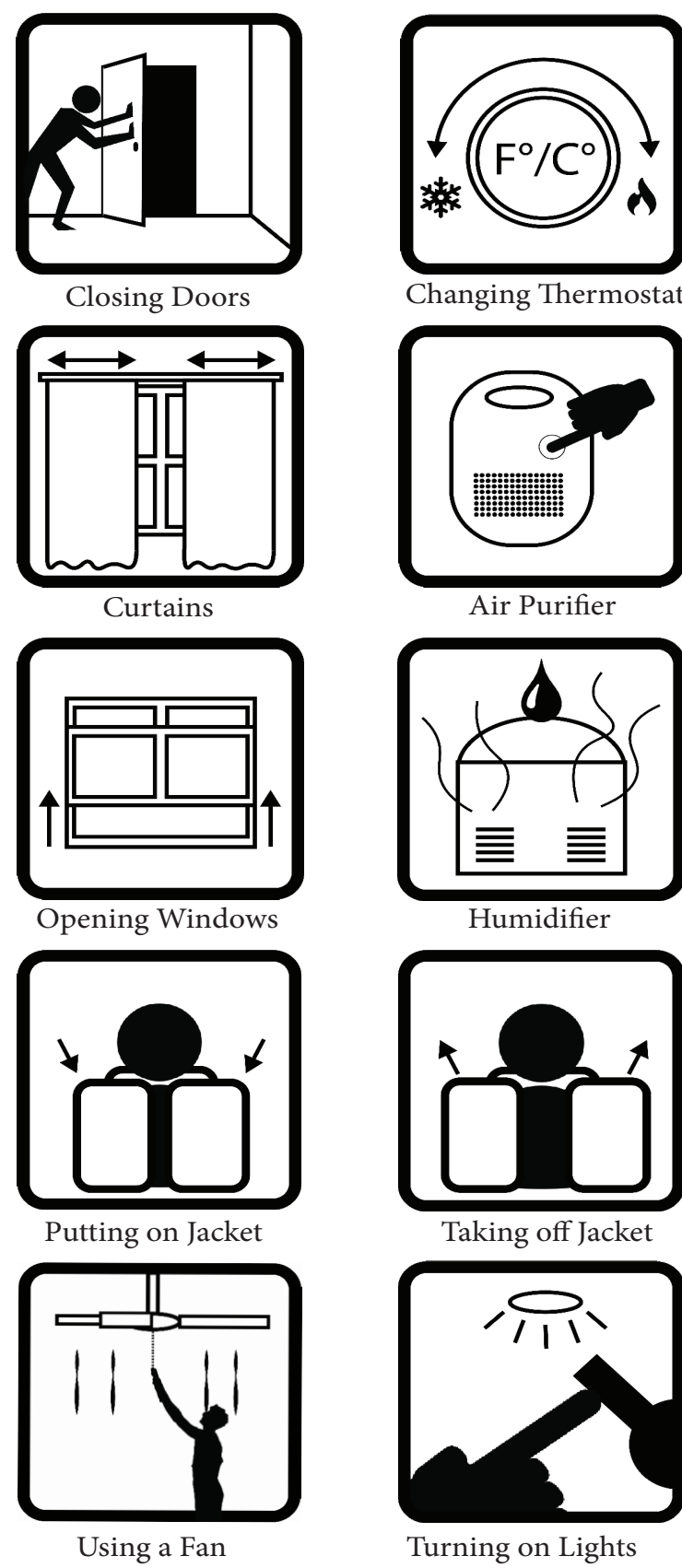
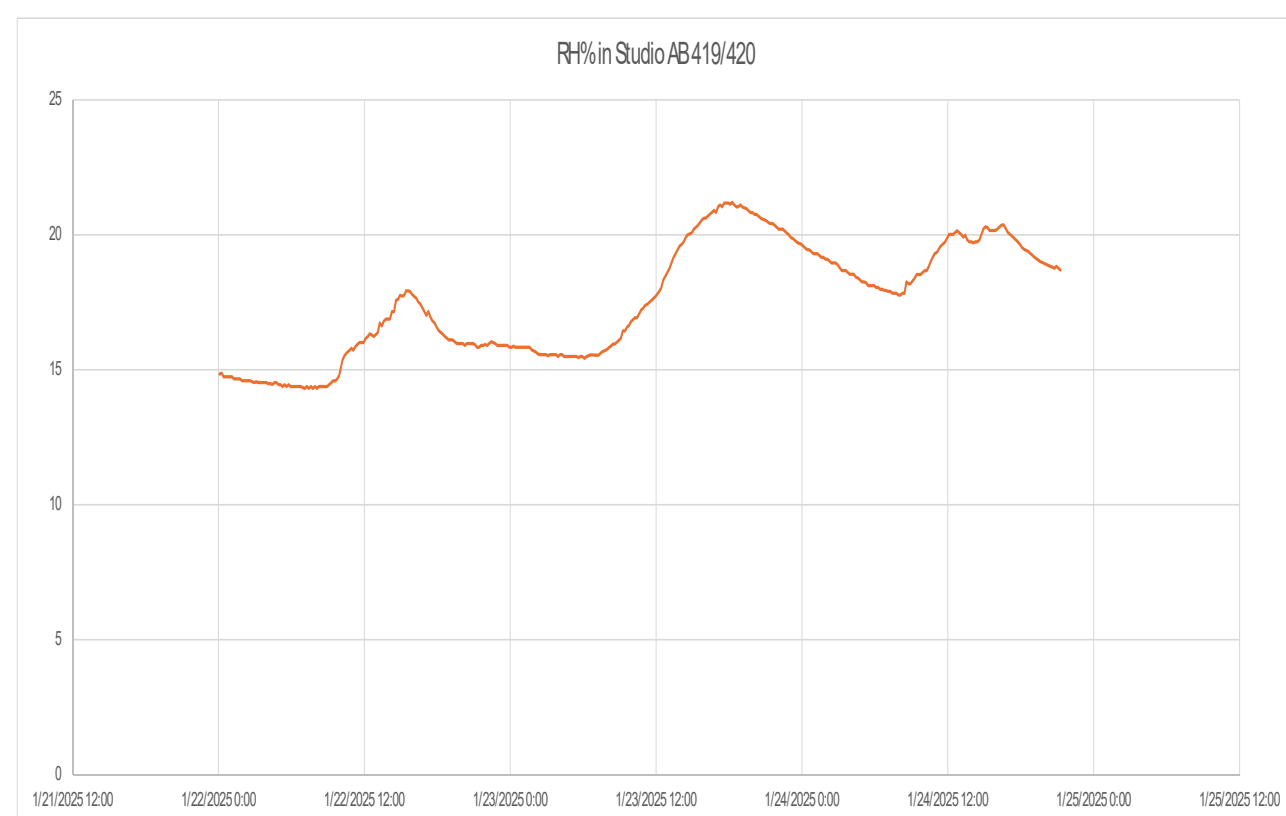
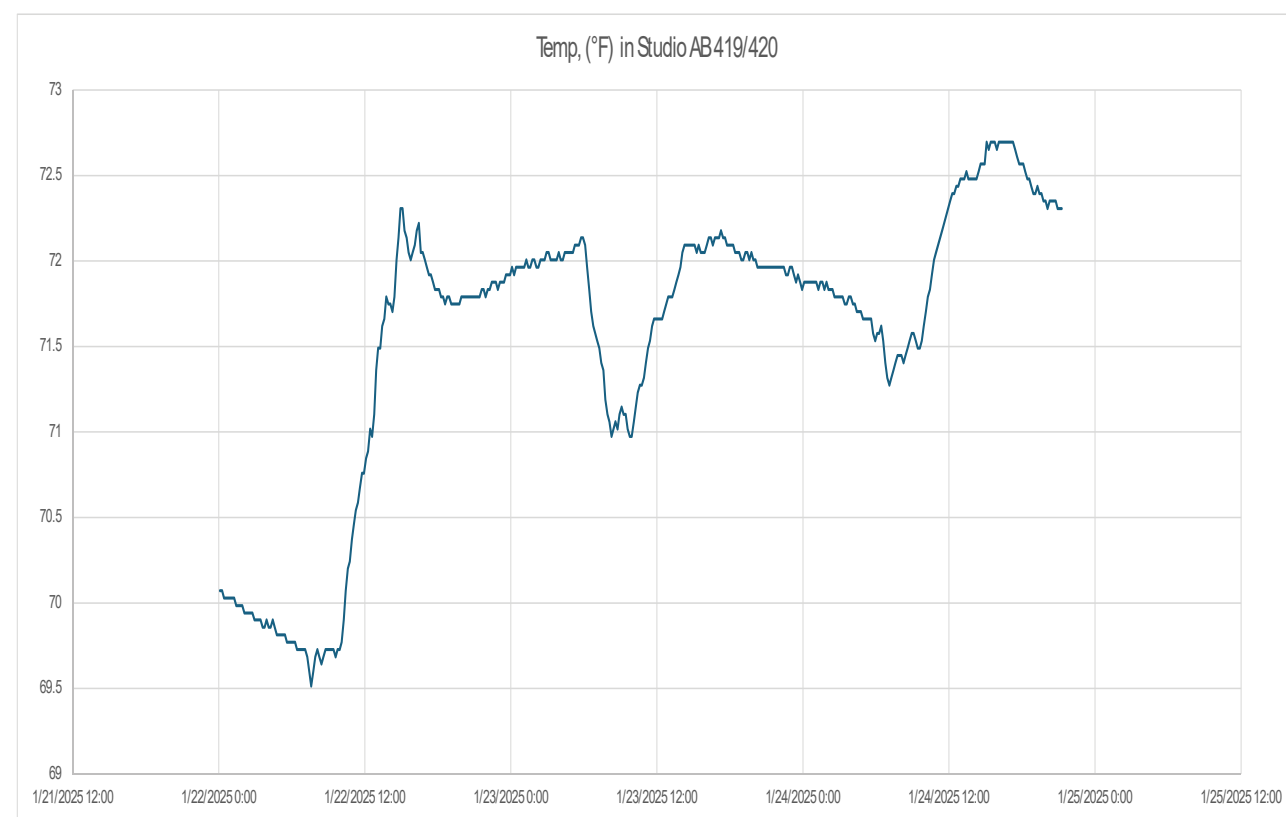
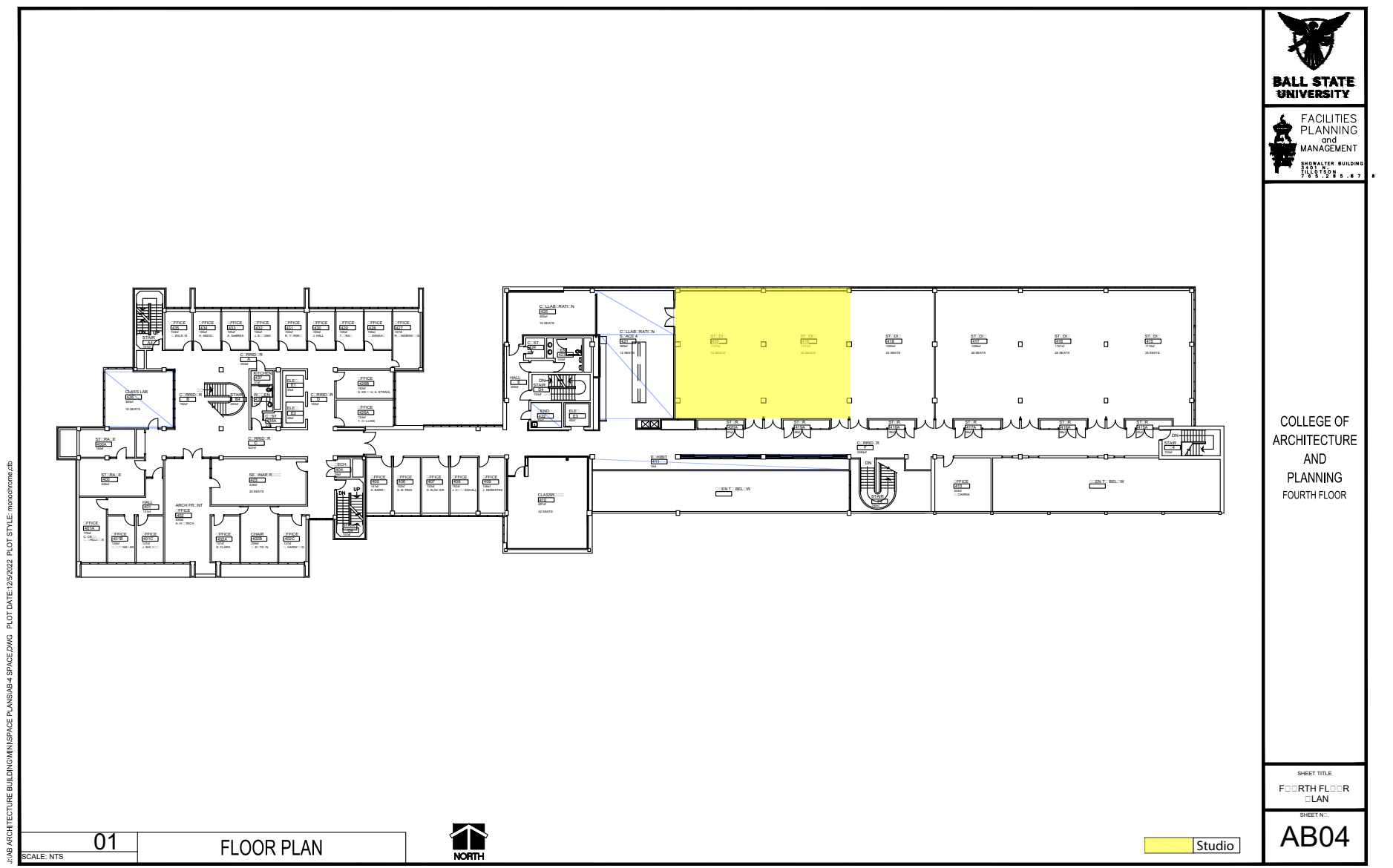
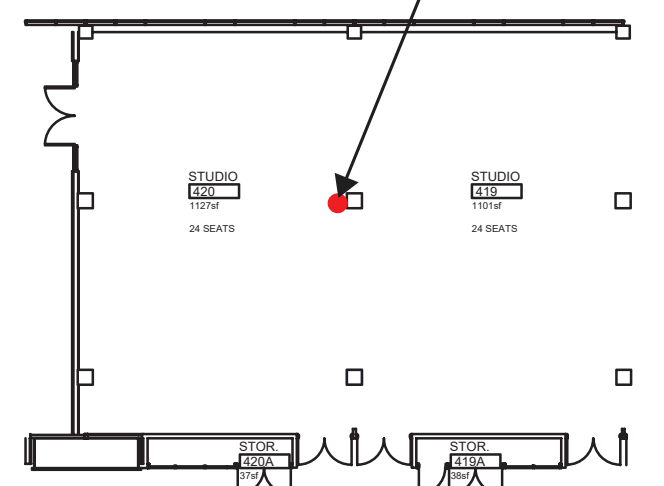
DIAGNOSTIC - The study period that we ended up using was over a course of 5 days of data collection as well as survey collection. This led to the development of sets of data to help us understand whether the occupants of the room were comfortable or not. The methods that were used to provide us this data is the sensor data for the room that was provided for us by Ayobami Ilori who used the HOB0 sensor, as well as survey data that we had collected. The usage of these methods presents us with multiple variables such as the temperature of the room as well as the types of clothing that occupants were wearing whilst within the room.



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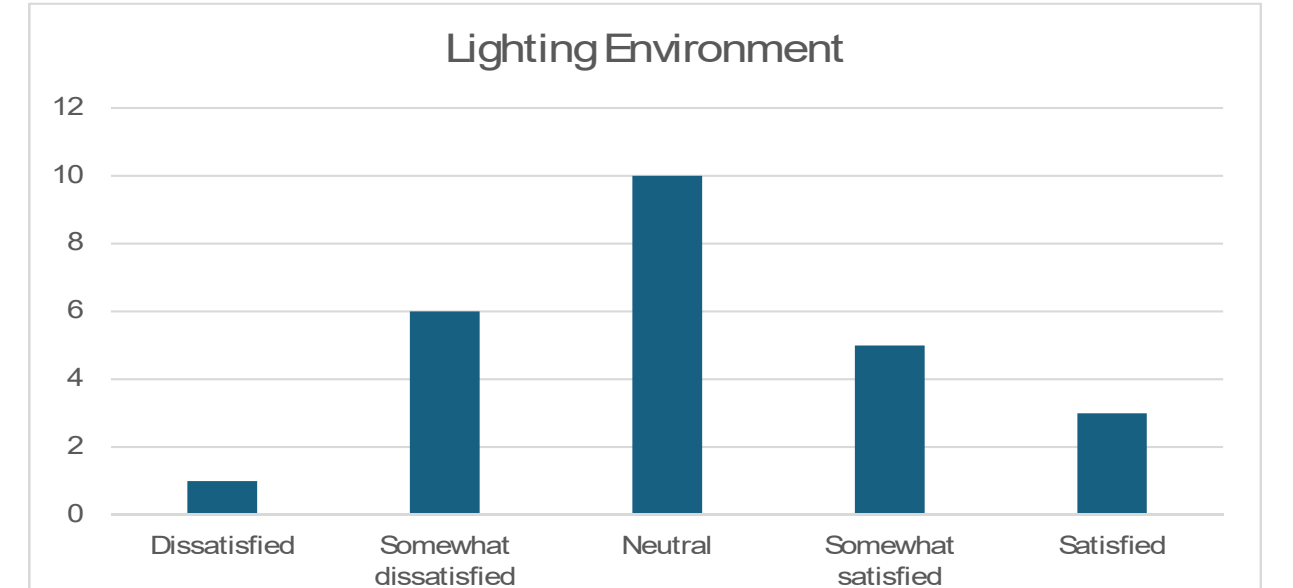
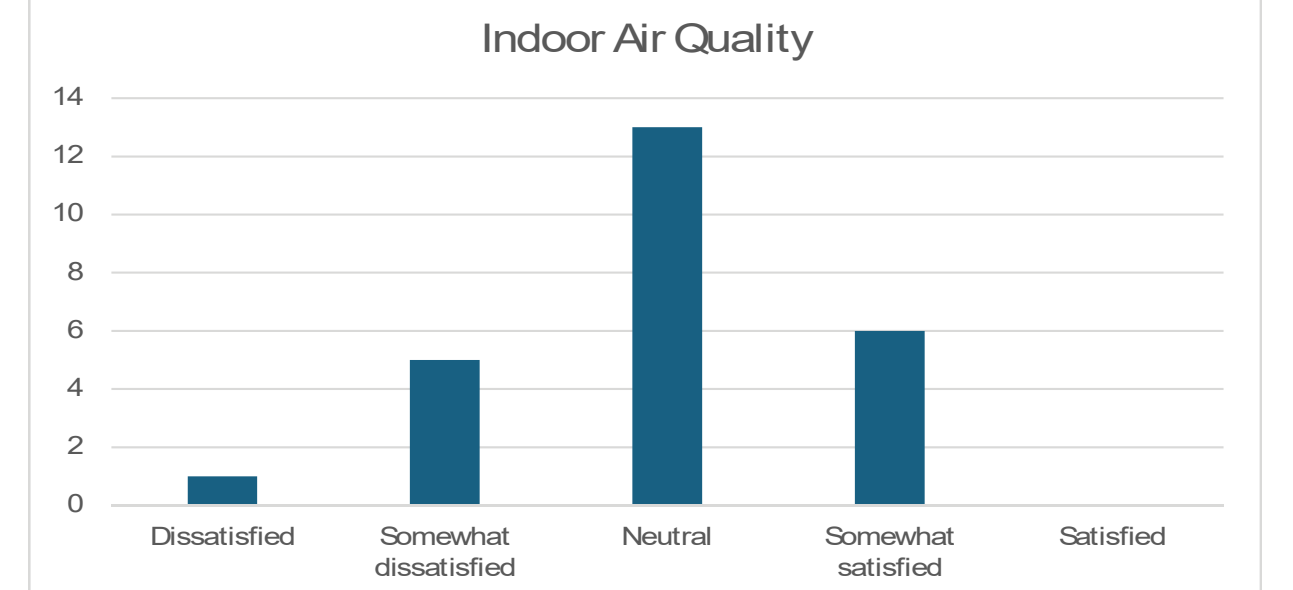
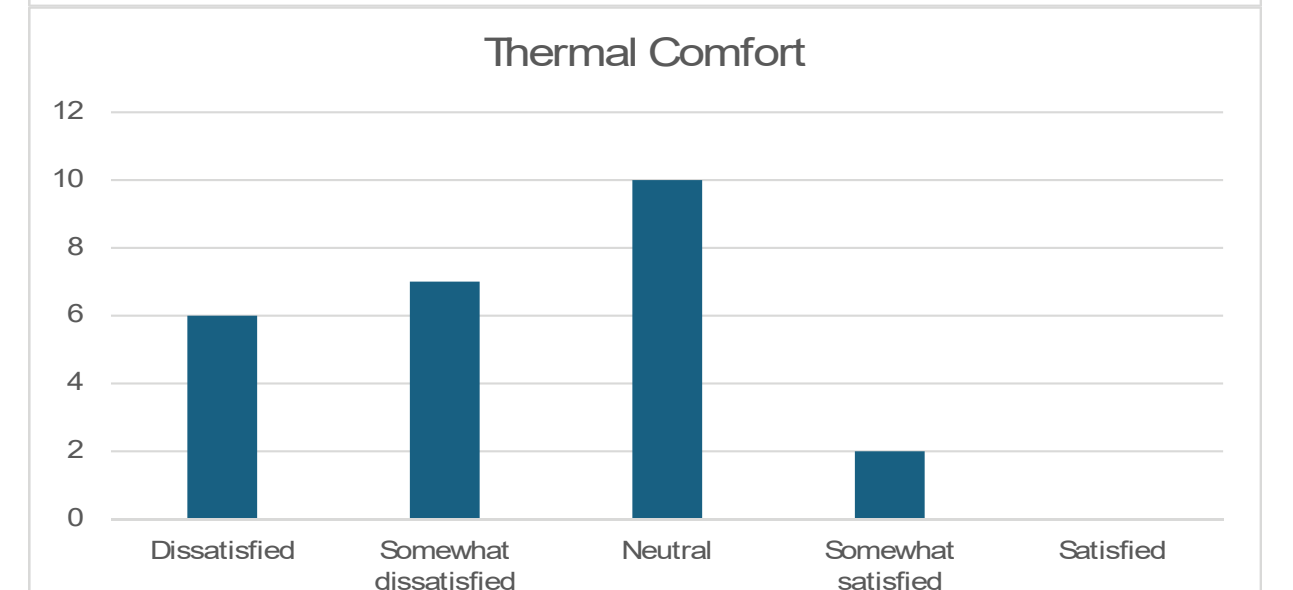
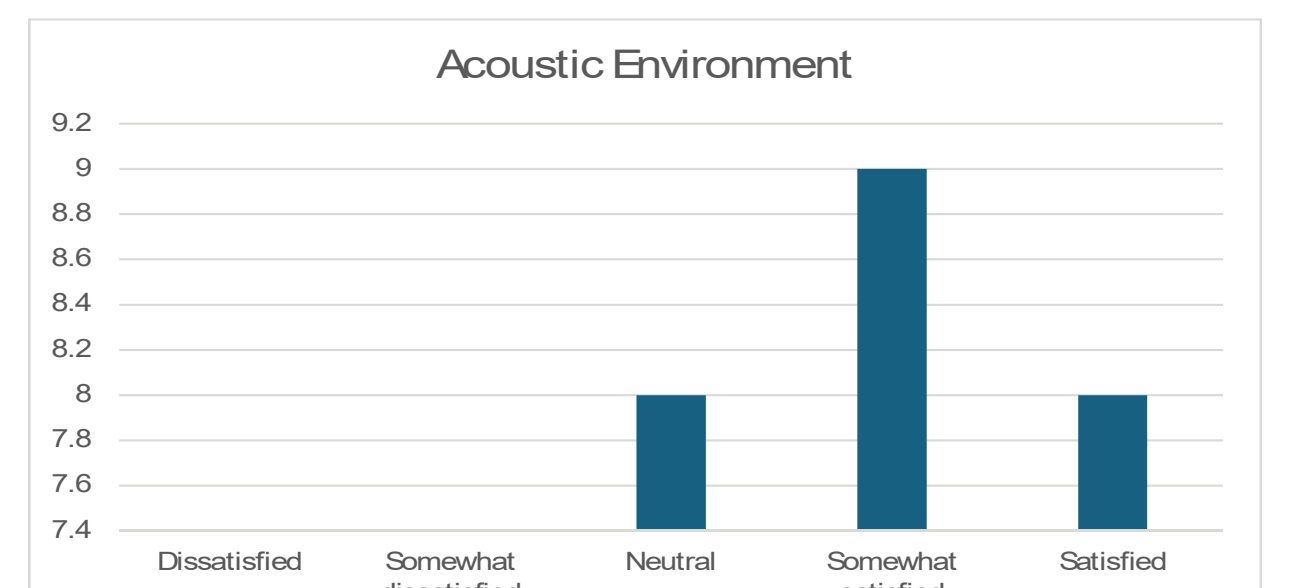
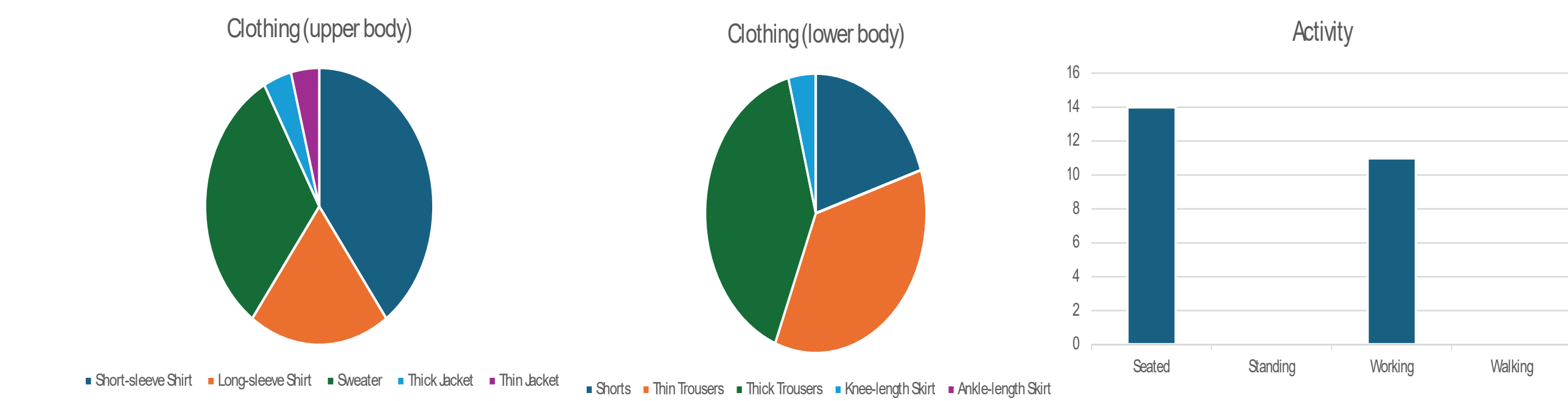


Hobo + Purple Air Sensor Location



RH% that was above 15% the entire time besides about 8 hours at the very start of the data collection period. The overwhelmingly neutral verdict makes sense as well when we take a look at temperature as a factor, it was not very consistent initially starting off the collection period at about 70 degrees and in a span of about 8 hours spiked above 72 degrees. These results show us that about 8 hours into the first day of data collection there were large spikes in both the RH percent levels as well as the temperature. The cause of this spike though is unknown.

The methods that were used throughout this observation period were readings from the HOB0 device regarding humidity in the room and surveys done among residents in the room regarding preferred environment and types of thermal effect from the clothes they were wearing at the time of the survey. These methods had transpired on differing dates within the same span of time so some of the comparisons made throughout the data analysis may not be exactly up to preferred standards.



	Dissatisfied	Somewhat dissatisfied	Neutral	Somewhat satisfied	Satisfied
Thermal Comfort	6	7	10	2	0
Lighting Environment	1	6	10	5	3
Acoustic Environment	0	0	8	9	8
Indoor Air Quality	1	5	13	6	0

When it came to the Indoor Air Quality of the room according to the occupant survey there was adequate data that shows us majority of the occupants were neutral when it came to the Indoor Air Quality itself. On the other hand, there were significantly more people that were somewhat dissatisfied or dissatisfied with the Thermal Comfort of the room. There were still a large number of people that were neutral with the thermal comfort of the room with the room, but there were more negative results with this portion of the survey than any other part.