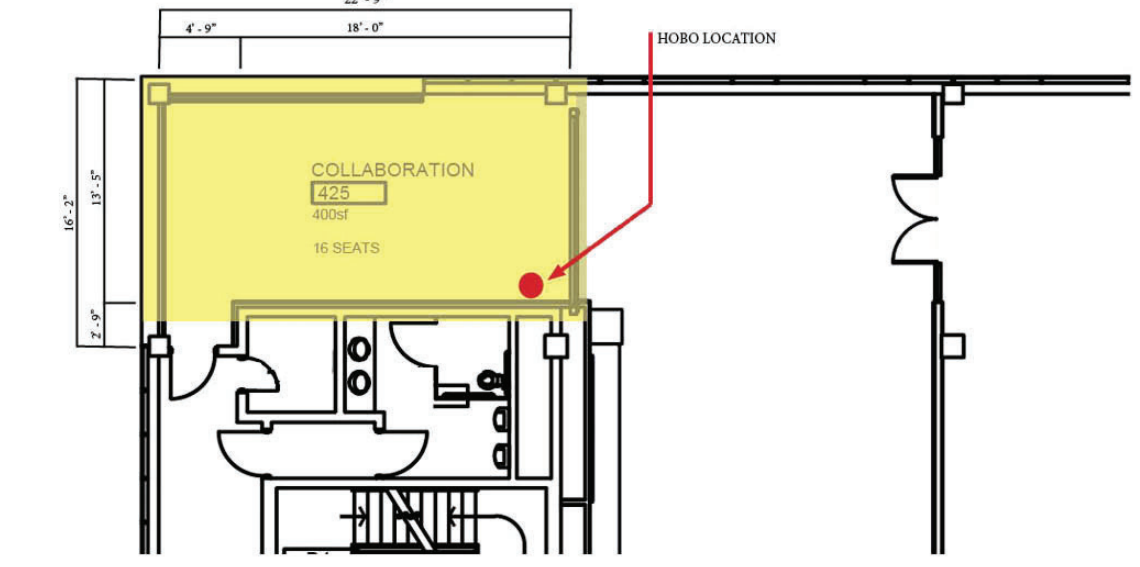
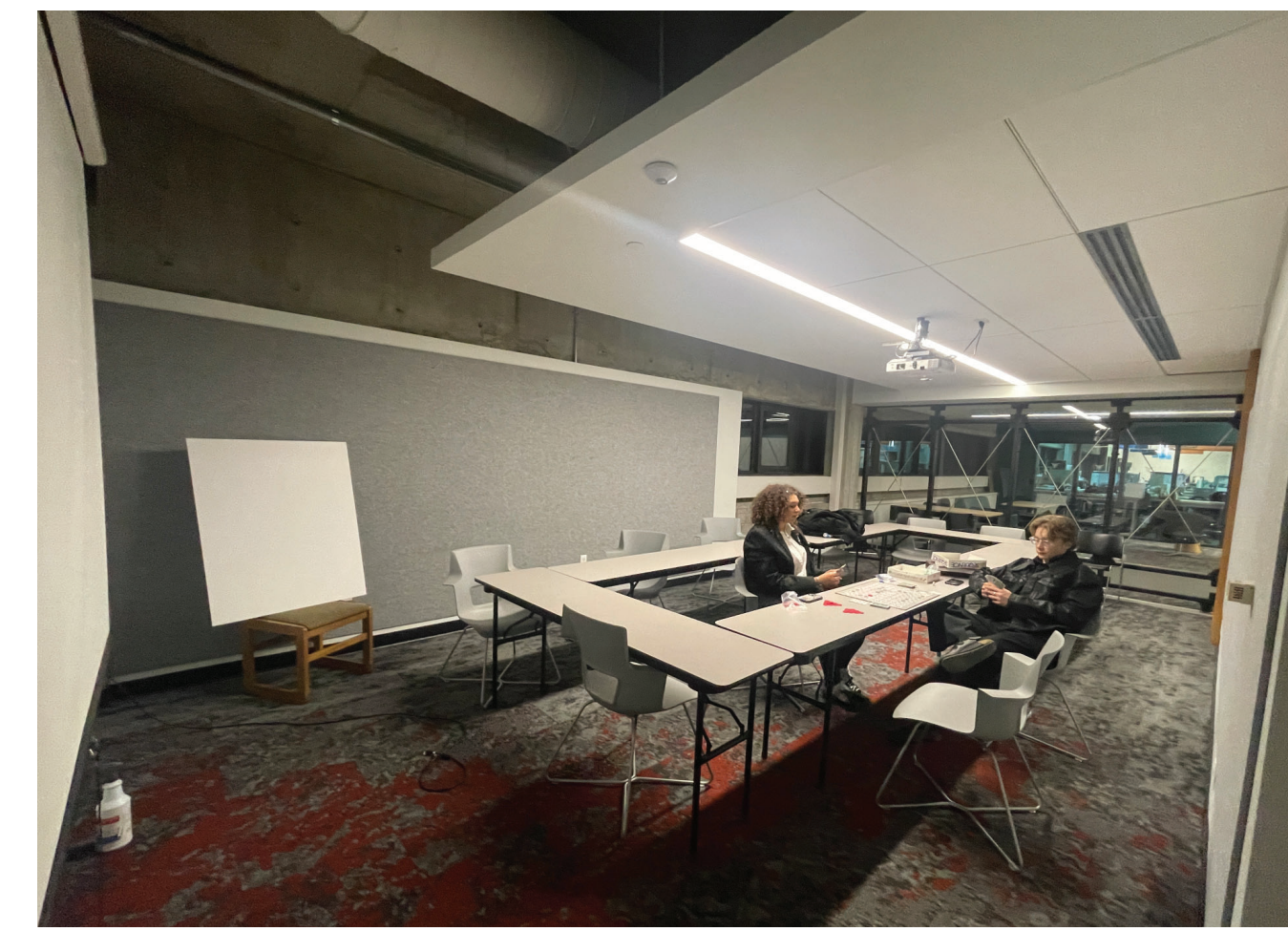


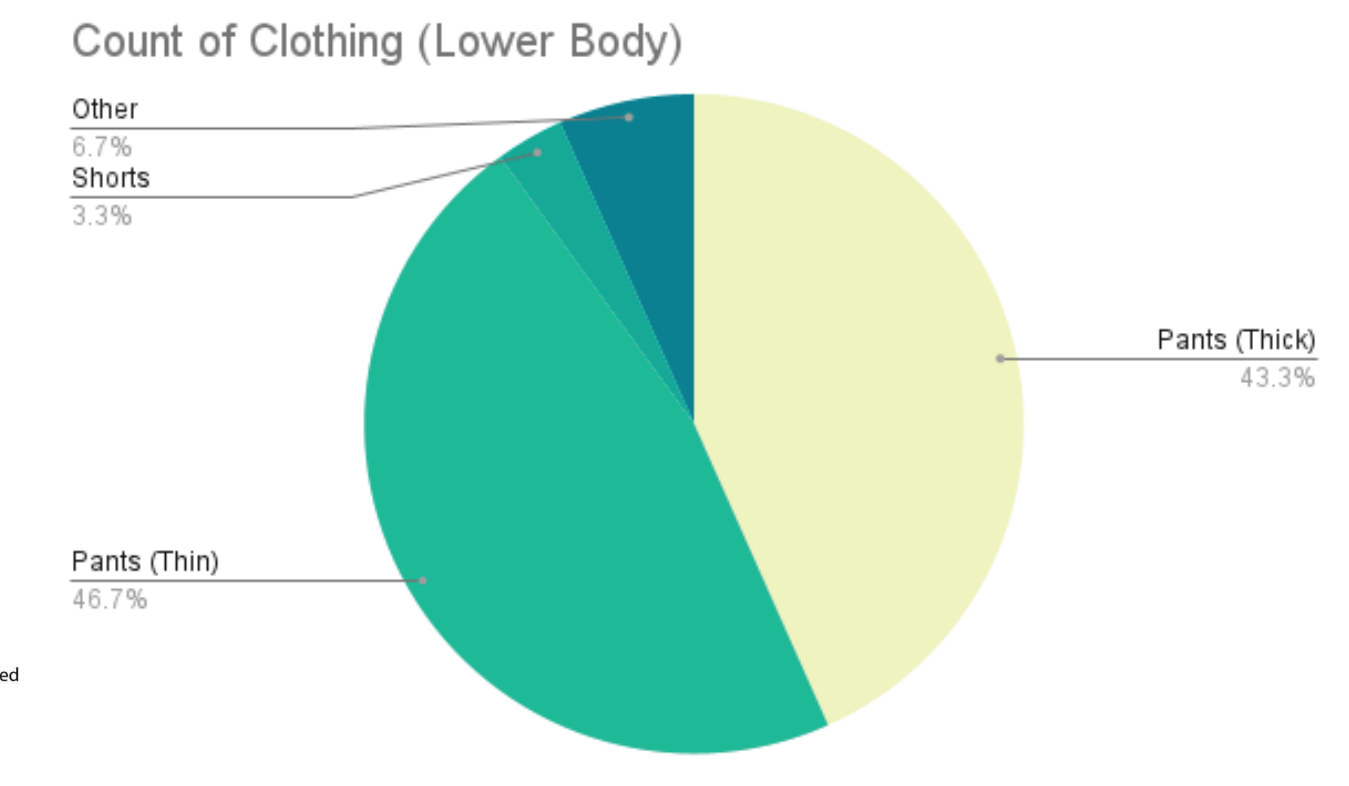
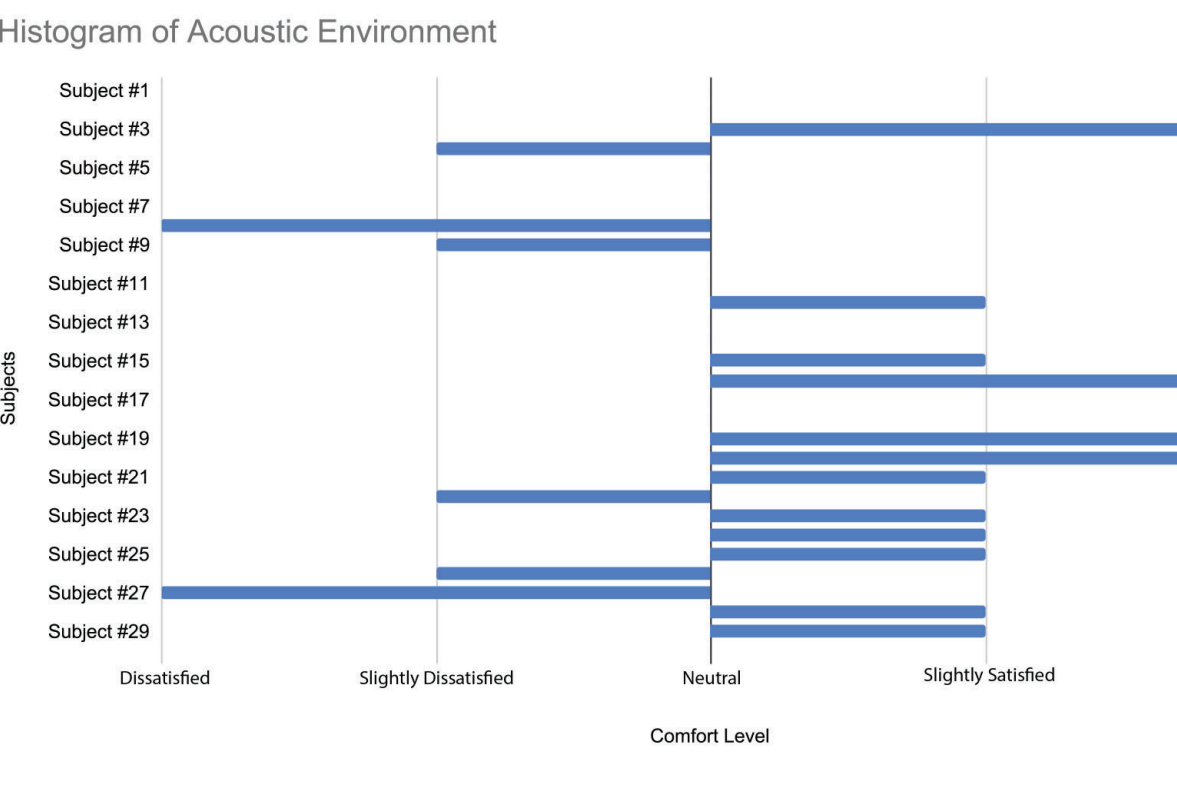
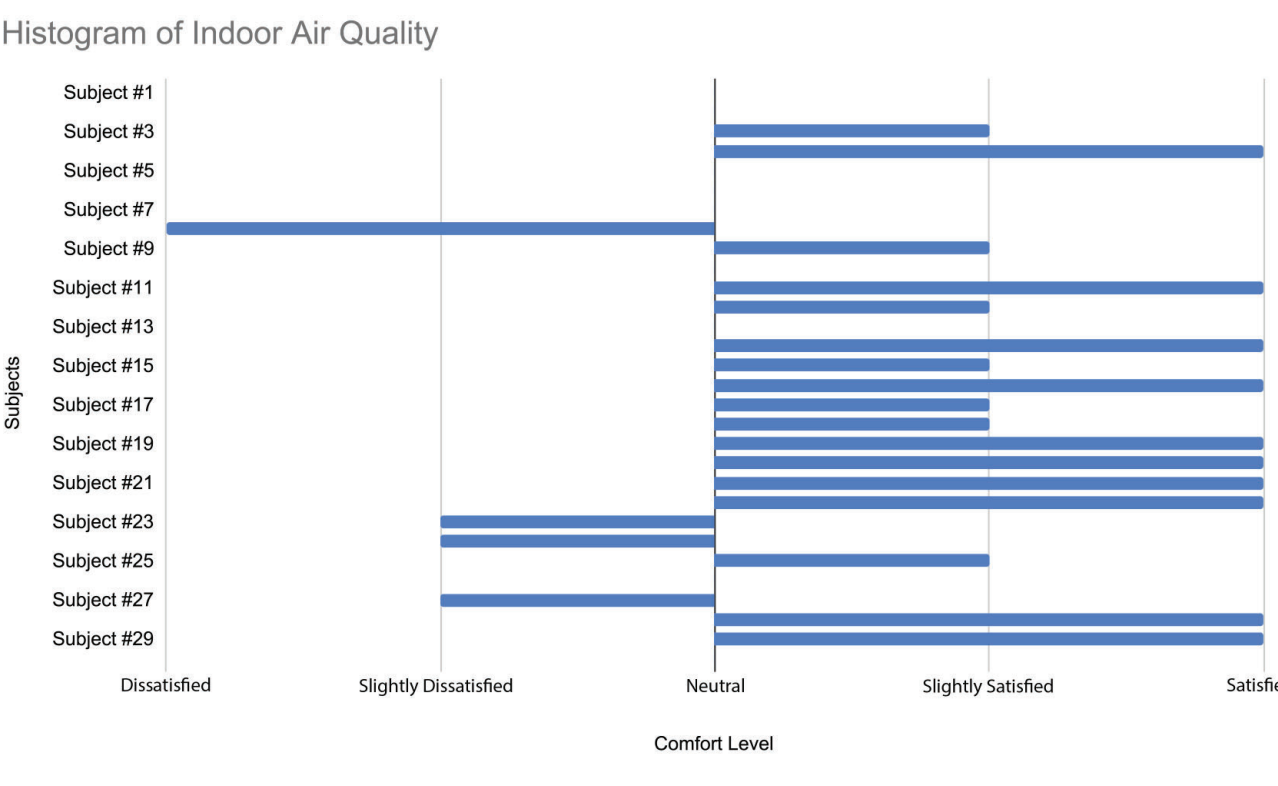
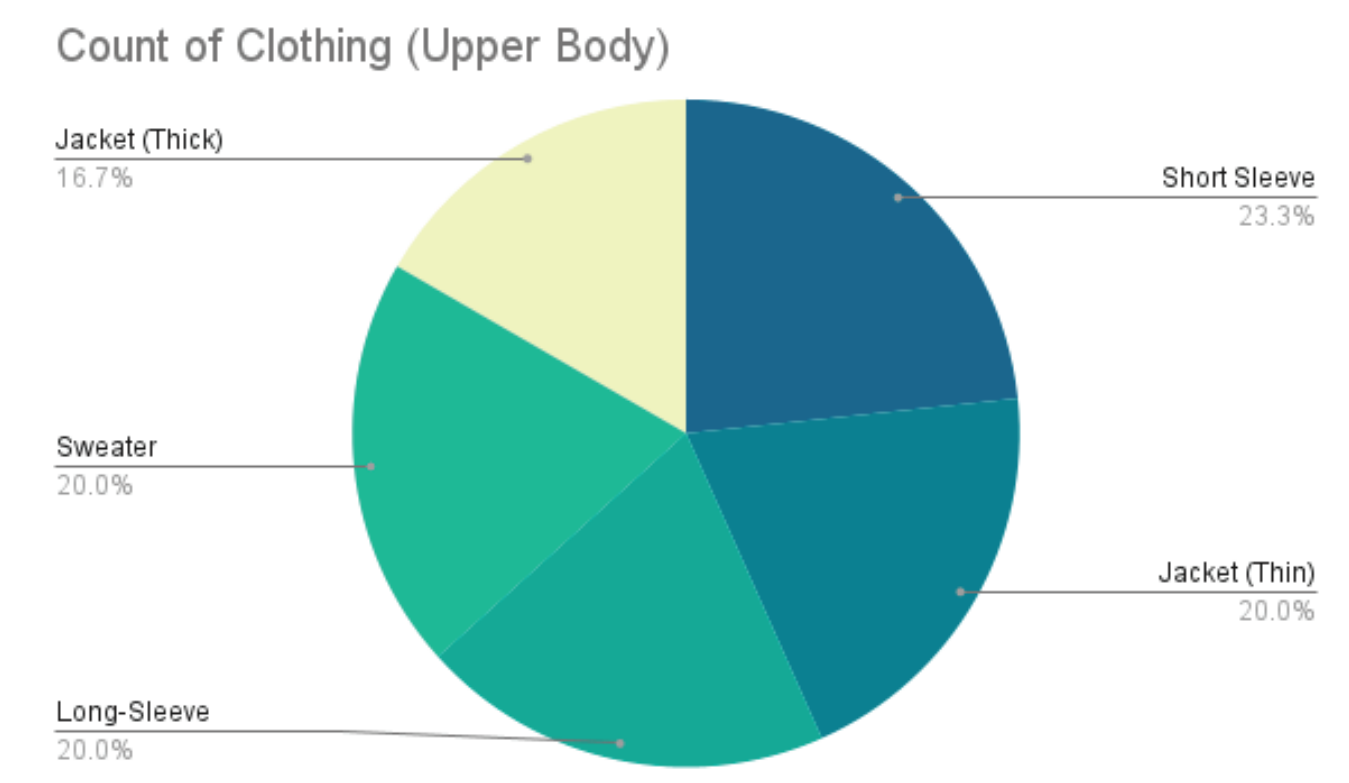
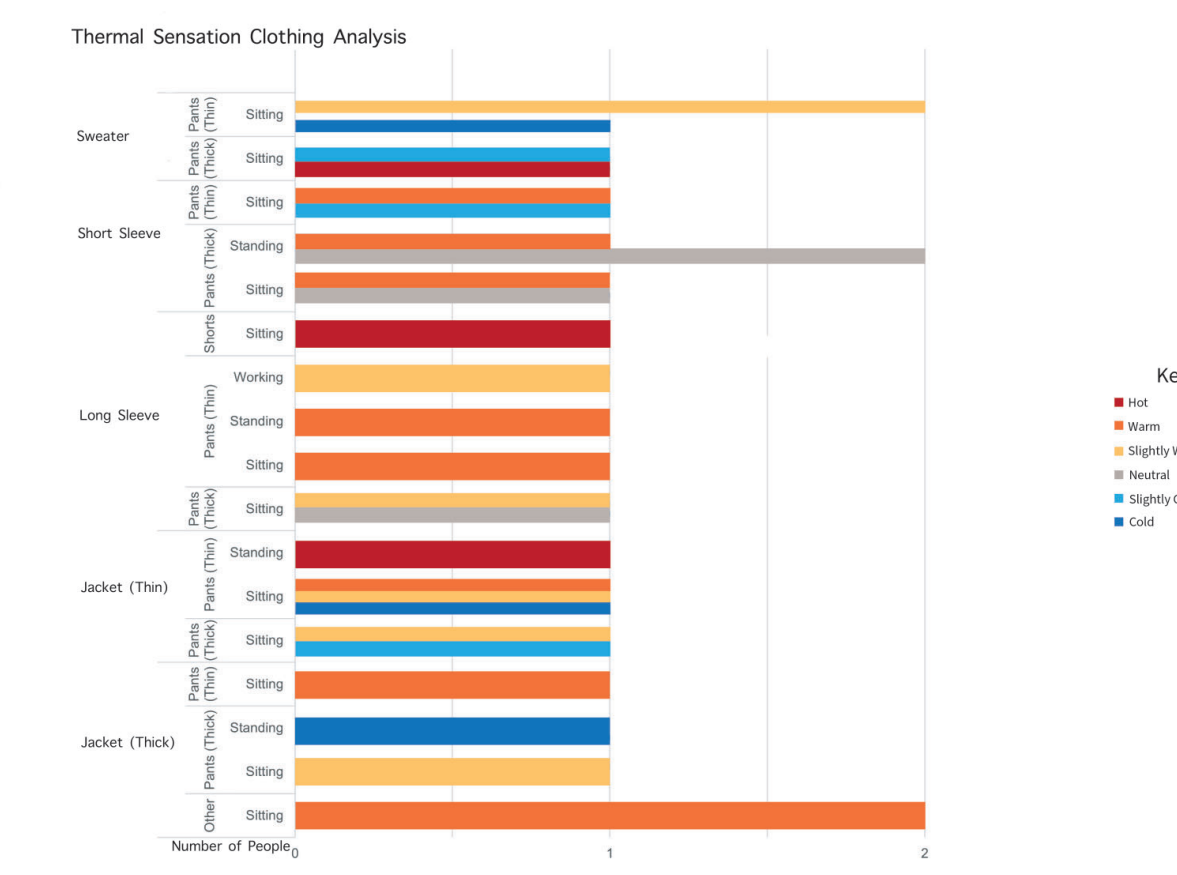
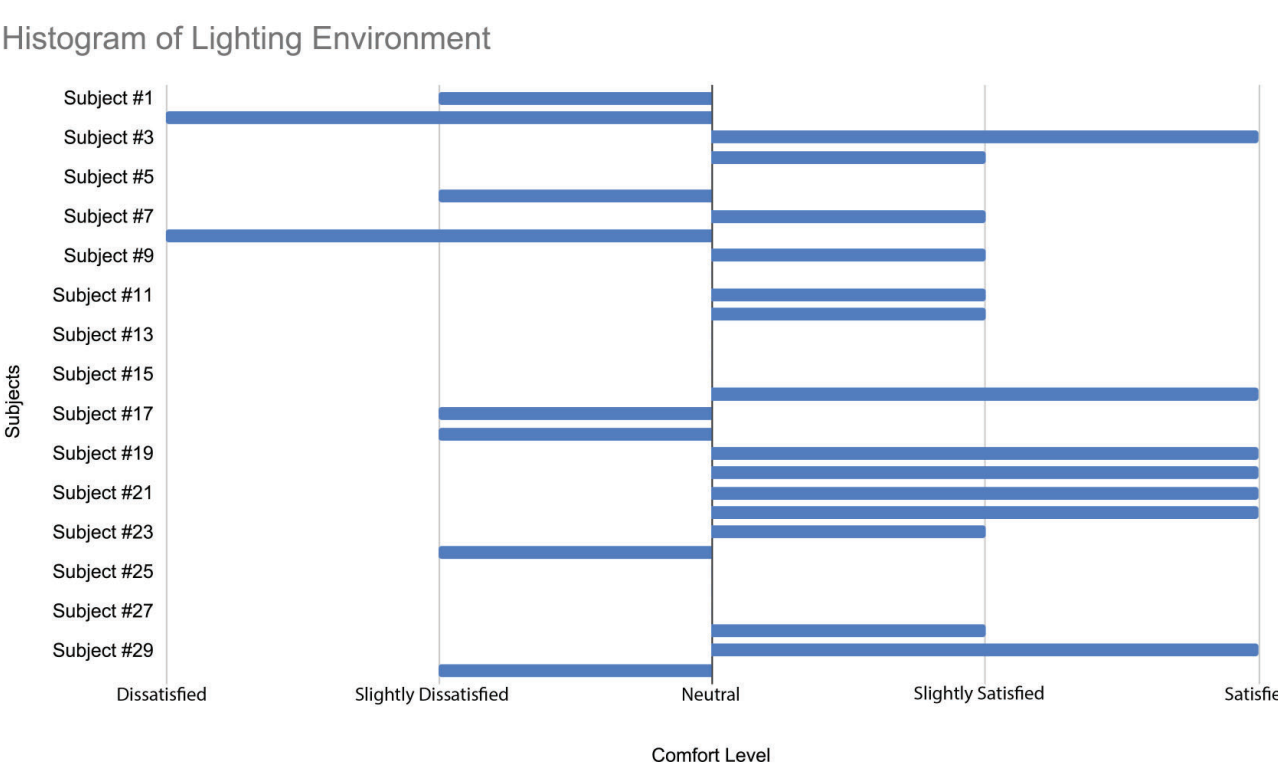
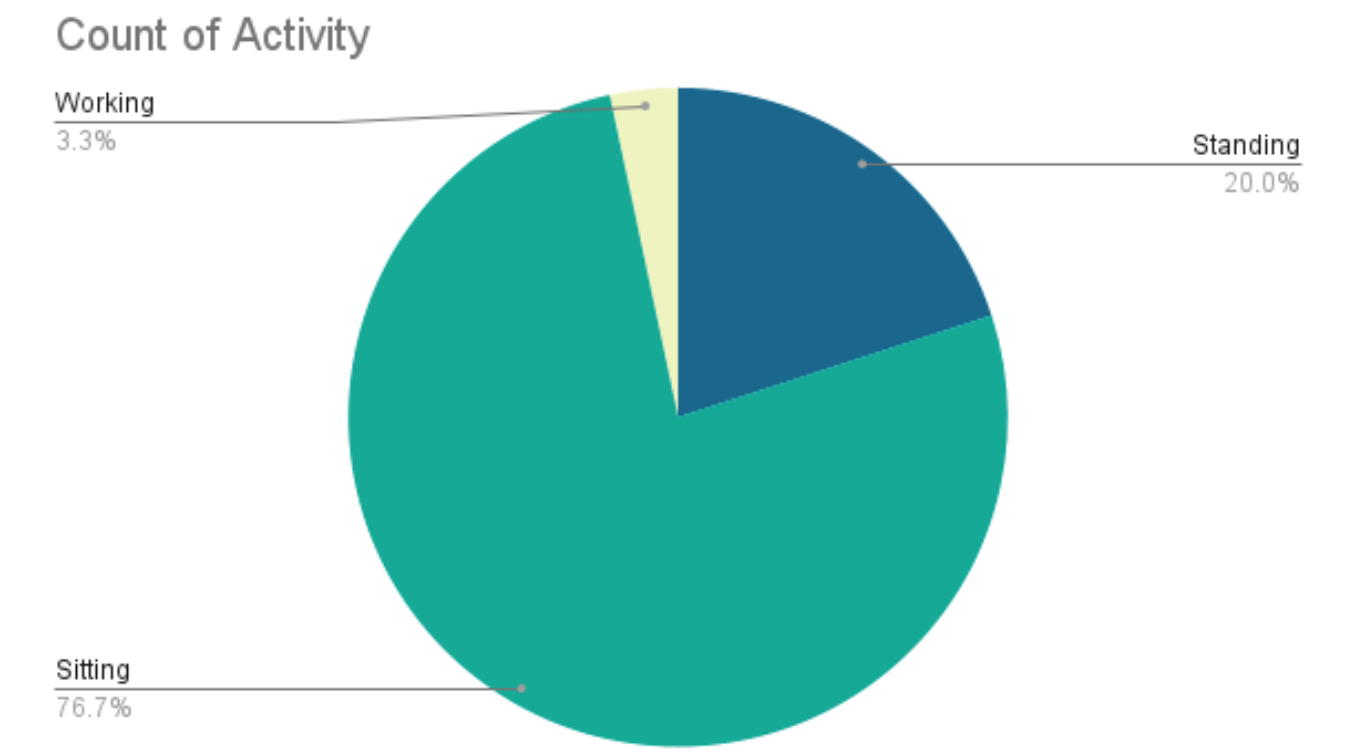
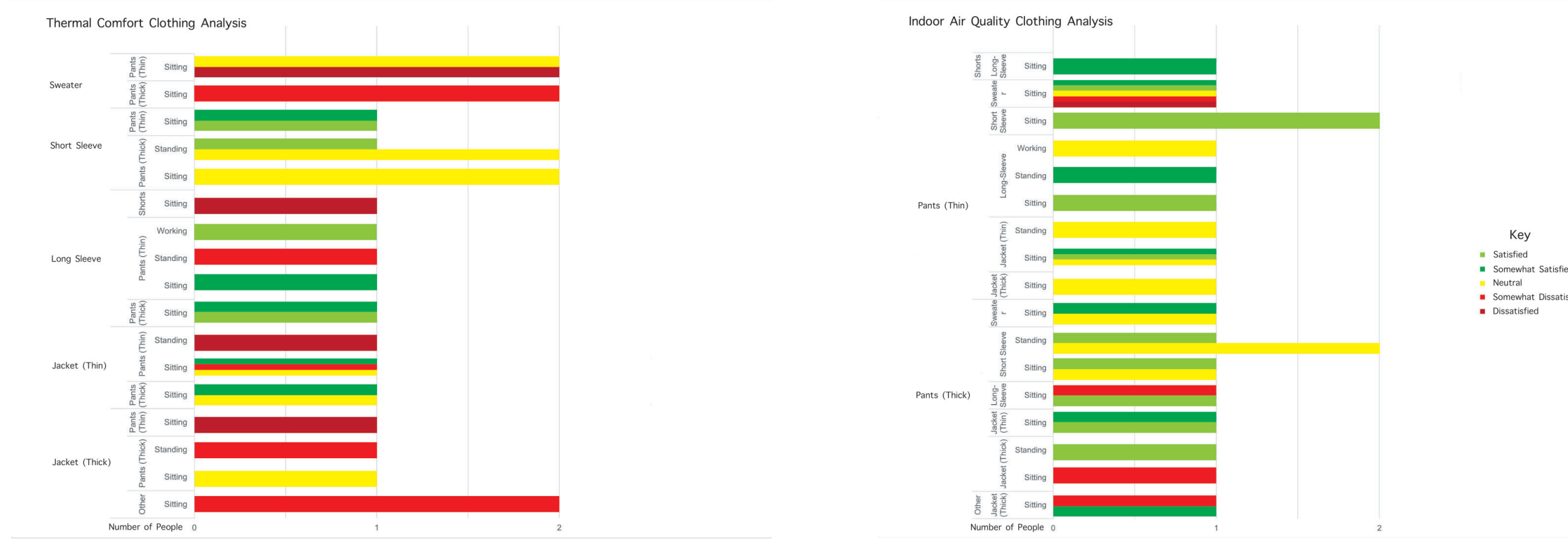
ASO1 - Performance & Behavior: Room 425

ARCH 273 35163 Section 2, Spring 2025 Hannah Codere, Sarah Jayko, D'andre Williams, and Lauren Yelich Zahida Khan

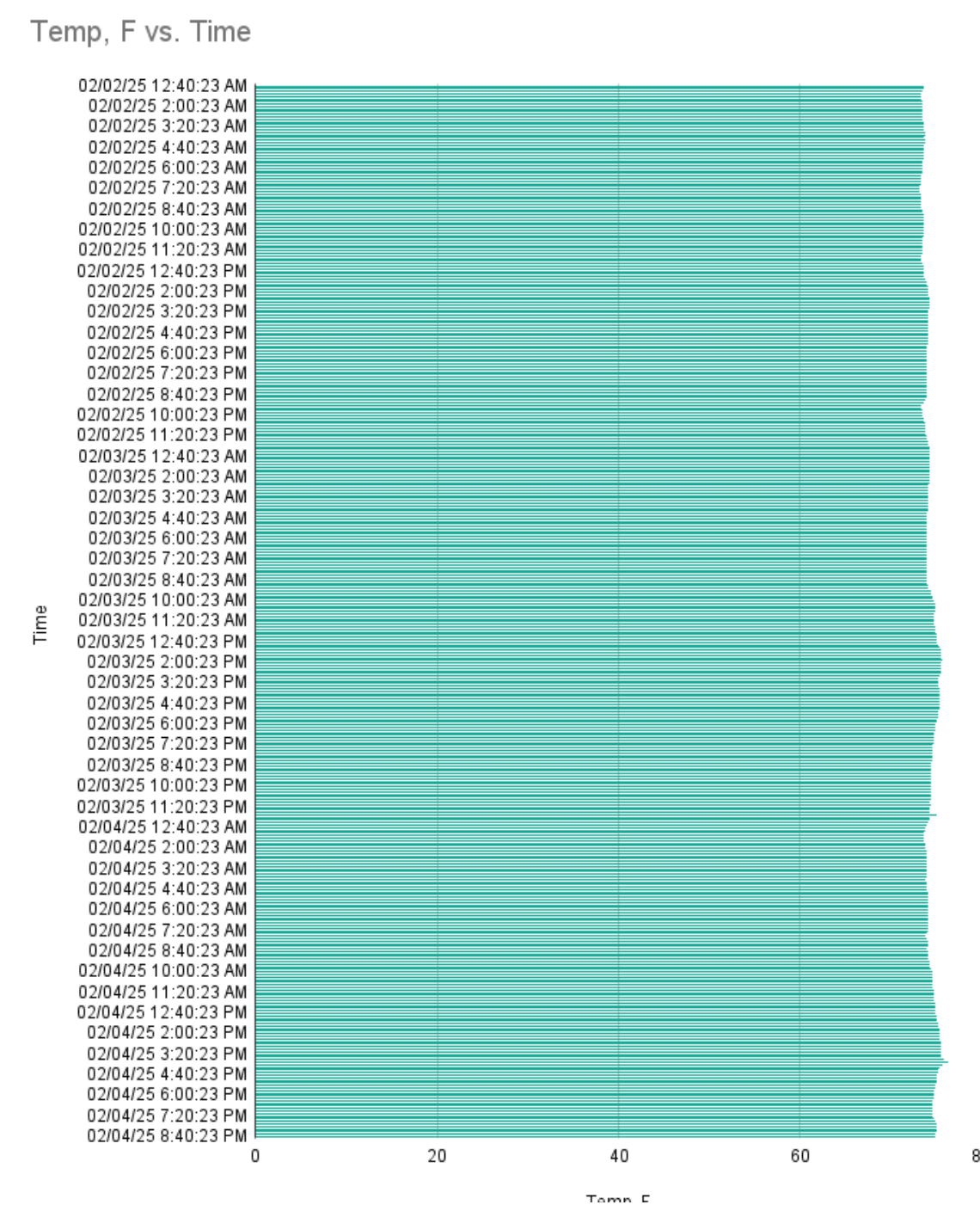
The team was assigned the AB425 conference space immediately attached to the fourth-floor maker's space. The room may have a unique set of experiences due to the room exposure. Explained, the room is drywall on three sides, while one side is a large sliding glass wall that separates the conference room from the collab room. This door is able to be pulled back to join this space into one large room. Because of this, the room is not sealed off at this point, and the glass wall has several inches of a gap between the top and the bottom against the track. Therefore, there is not a solid separation of spaces, and these gaps may affect not only the air circulation and temperature but also the acoustic and lighting experience through changes in material and the lack of a tight seal between rooms. The small size of this room means that it may also change comfort levels relatively easily depending on the number of people present and movement within the space. This brings us to our research question. Will students and faculty remain comfortable in this room or will the temperatures and comfort levels fluctuate because of the lack of a small maintained micro-sphere? If levels do fluctuate, are they predictable and generally a smooth curve? Or are they more sporadic, hard to predict, and strongly different from each other from time to time?



Graphs



Hobo Data Results



Narrative - Diagnostic

Methodology: Through the duration of February 2nd to February 4th, the HOBO device collected data in room AB 425. The sensor was secured on the wall near the room divider. The data refers to the temperature and relative humidity within the space every 20 minutes over the 3 days listed above. In addition to the field measurements, our other method of research was occupant satisfaction surveys. The data was gathered after receiving in-class training for the equipment that measures IEQ factors. Some of the factors we were trained and taught to understand were: acoustics, lighting, temperature, and relative humidity. The research from the HOBO sensor allowed us to focus on the temperature and relative humidity to create the bar chart that displays the values over the study period.

Occupant Survey: When doing the occupant survey, we inquired about people who had been in the room prior to us entering the room. The occupant survey evaluated the following variables; gender, age, ethnicity, profession, the amount of clothing occupants were wearing, the activity occupants engaged in within the space, and the thermal sensation of occupants within the space. The survey also observed occupants' satisfaction levels of thermal comfort, lighting environment, acoustic environment, and indoor air quality. About 10 of the other surveys were completed by bringing people into the room to analyze their comfort levels while in the space. The mixture of circumstance and context adds variety to our data to see genuine comfort levels and minimize bias when conducting the surveys. In addition to this, the people surveyed varied among different demographics of gender, age, ethnicity, and profession. For the gender, 16 were female and the average age of participants was 18-24 year-old students with some older faculty members. There is a wider range in ethnicity and clothing for the upper and lower body. Clothing was evaluated due to its insulating properties. The pictogram shows clothing conditions that may reflect occupants' comfort levels. Almost all 30 people were sitting while in the room. Based on the results, most participants claimed the thermal sensation was warm on average correlating to the thermal comfort category being mostly dissatisfied. The lighting environment was mainly satisfactory with about 40% being somewhat dissatisfied or dissatisfied. Furthermore, the acoustic environment is also satisfactory to most of the people that were surveyed. The consensus about the indoor quality was that participants were satisfied.

Discussion Reflection
We can conclude that room AB 425 tends to be on the warmer side temperature (Fahrenheit) with relative humidity in the lower range below 30% or barely averaging in the 30s. With these conditions, the people who experience the room tend to feel warm. The occupants also experience temperature differently depending on their upper and lower body clothing, which impacts how insulated they feel. Something to note is that the age, profession, gender, etc. of the participants did not make a noticeable difference in the results of the level of thermal comfort. The lighting and acoustics also did not heavily affect the experience due to the room being used for classes and work rather than lectures and socializing. Overall, due to the fluctuation in the temperature and relative humidity, the people surveyed were not satisfied with the IEQ as it is above or below standards, making it uncomfortable.

