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# In The Window Seat: The Influence of Windows on Occupants' Sitting Preferences in Educational Environments

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- The pattern of human behavior in work-study environments is relevant in the world today for implications of time, money, human health, well- being and performance.
- Previous studies showed that the location of windows in work spaces had a positive influence on human behavioral factors, however there was no evidence to prove that occupants preferred sitting near windows.
- **Hypothesis of study:** When given a choice, people preferred sitting near windows for studying and work related activities.

- Statistical tests showed that there was no association between window locations and sitting behavior and no correlation between light levels and sitting counts near windows.
- Other factors such as proximity to electrical outlets and privacy were found to have a more significant influence in the decision making process for sitting.
- The results give some insight into occupant behavior in day lit and window environments. They also have implications that are relevant for future research as well as the design of work-study spaces.

## Method

**Observations:**
Occupant Counts and Light Measurements

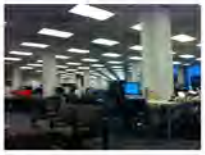

Sample Observation Chart


Datalogger Light Meter
Extech Model #401036


Sample questionnaire
(In-person and online)

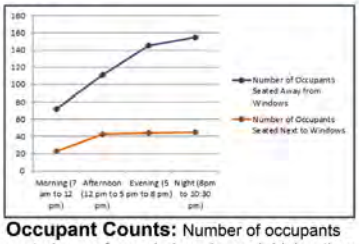
**Libraries selected for the study:**
3 libraries on campus of the University of Illinois at Urbana-Champaign


1
Grainger (Engineering)

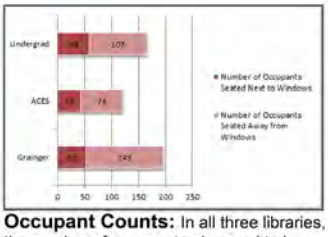

2
Undergraduate


3
Agricultural, Consumer and Environmental Sciences

## Results

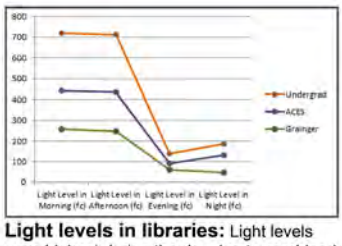



**Occupant Counts:** Number of occupants seated away from windows is much higher than near windows and Increases towards night.

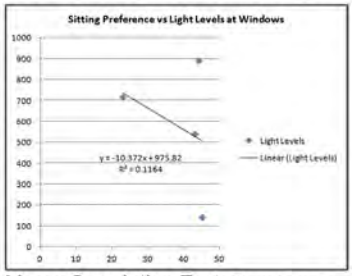



**Occupant Counts:** In all three libraries, the number of occupants observed to be seated away from windows is significantly higher than the number of occupants observed to be seated near windows.

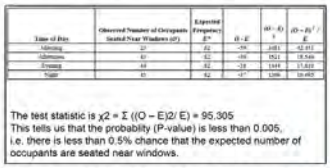
So where do we like to sit?




**Light levels in libraries:** Light levels were highest during the day due to combined natural and electric lighting. They dip towards the evening as the daylight decreases.

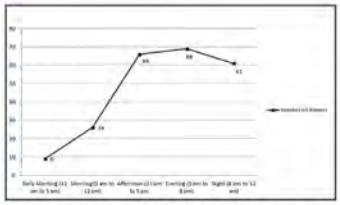



**Linear Correlation Test:** There is no linear correlation between lighting levels and number of occupants near windows in libraries.

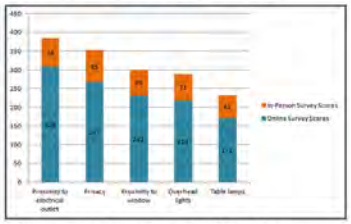



**Chi-Square Test for Goodness-of-Fit:** It appears that the observed frequencies do not agree with the frequencies that were expected of occupants to be seated near windows.

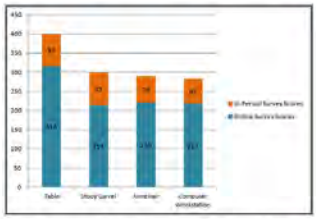
**Daylight and glare:** Occupants avoid sitting in direct sun patches near windows at certain times.



**Library usage by time of day:** Library usage increases towards the end of day. They also remain busy at night.



**Sitting preferences in libraries (by location):** Survey results showed a marked preference for electrical outlets, followed by privacy. Prxomity to windows was only the third choice.



**Sitting preferences in libraries (by type of seating):** Survey results showed a strong preference for tables over other seating types.

## Conclusions:

So what does all this mean?

- The results did not provide sufficient evidence to support the hypothesis that occupants preferred sitting near windows. Occupant counts sitting away from windows were significantly higher.
- Variables such as excessive glare, lack of daylight controls, individual sitting preferences and library layout were found to determine occupants' sitting preferences.
- Daylight control mechanisms are required to avoid human discomfort.
- The results provide useful implications for future research in the same area.