



# Early Comparative Office Study

Statistical experiment of 145 subjects in four office settings, circa 1975

By: Kevin Manning, Seattle University

Environment and Behavior

Volume 8, Number 4, December 1976

SAGE PUBLICATIONS

Environment and Behavior

Volume 8, Number 3, September 1976

Environment and Behavior

Volume 8, Number 1, March 1976

Environment and Behavior

Volume 7, Number 4, December 1975

Environment and Behavior

Volume 8, Number 2, June 1976

**Lynch** *The Image of the City*

SOMMER

PERSONAL SPACE  
THE BEHAVIORAL ASPECTS OF OFFICE SPACE

SOMMER

TIGHT SPACE

Küller

FORM AND PSYCHOLOGY

SOMMER

design awareness

COMPACT CITY

George F. Dunbar  
The Office Building  
A Study in Human Ecology

People and Buildings  
EDITED BY ROBERT GUTTMAN

Psychology of the Architecture

Hans Kreidler and Shulamith Kreidler

NCIS FERGUSON

ARCHITECTURE  
THE SYSTEM

Color and the Structural Sense

Deary

DESIGN FOR

Vickery

Anthrophysical Form

Virgini

Basic Books





In 1975, while a Senior at Seattle University the author sought a grant from the National Science Foundation to execute an early Workplace experiment which took place at Unigard Insurance's headquarters building in Bellevue, WA.

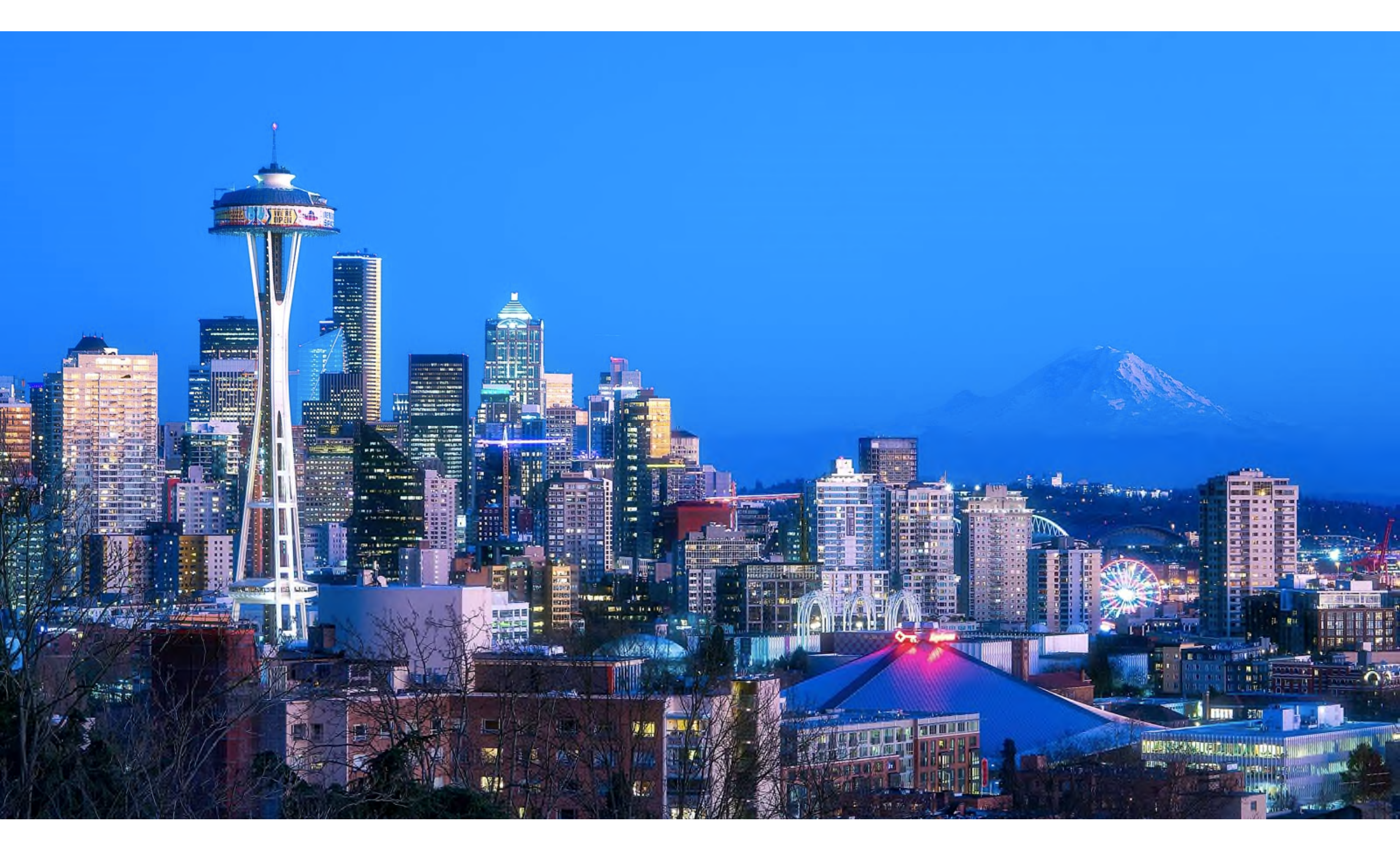














Will the last person  
leaving SEATTLE -  
Turn out the lights.

1970



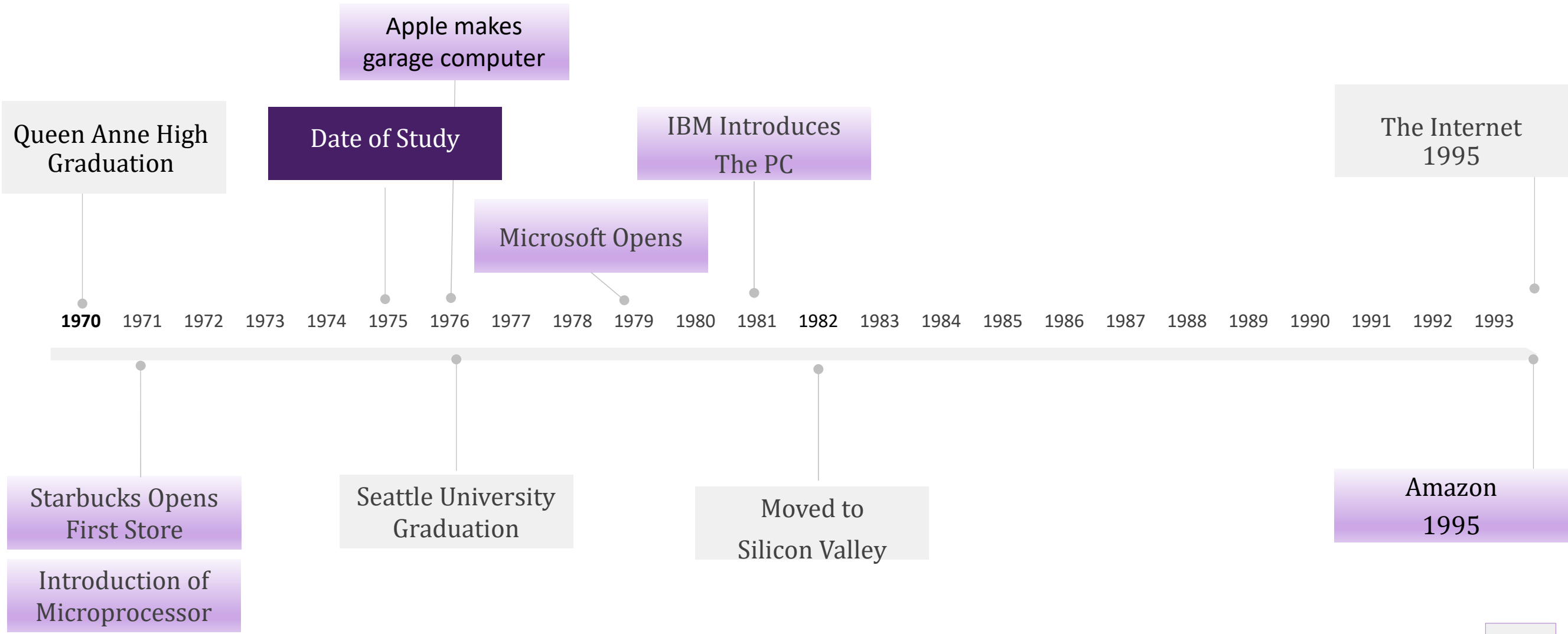
## 1971: A spark of interest + a CEO

- Safeco decides to build a 22-story HQ tower
- As Mailroom Supervisor, I had developed a relationship with the CEO
- Safeco's CEO liked my ideas and I was asked to work with the architects (NBBJ) designing the new mail room – without windows
- Asked U of W to combine Psychology & Architecture - No
- Entered Seattle University



# Timeline – 44 years ago

Milestones in Seattle, Technology and Workplace



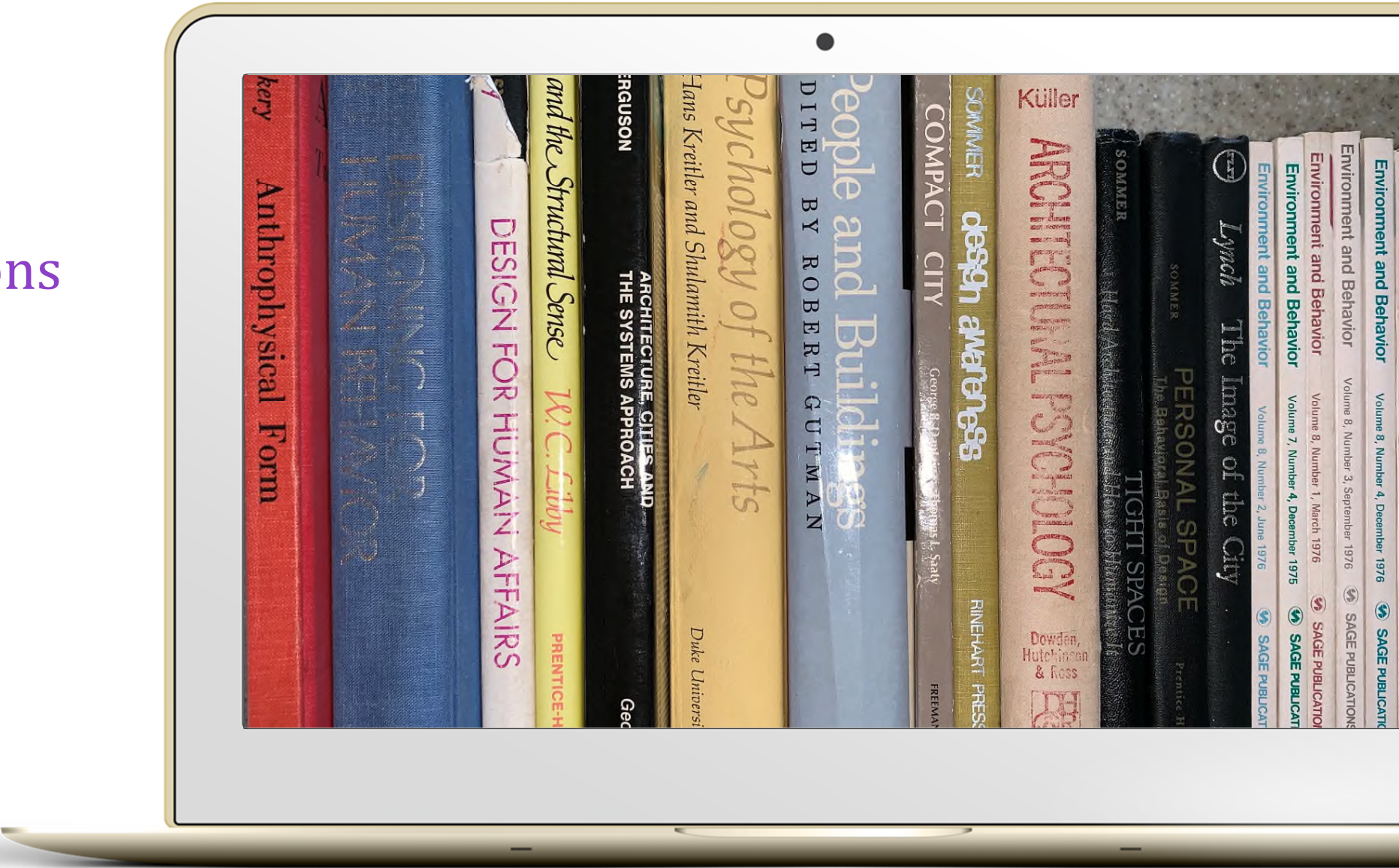


# Study Tools

## 17 Books & Publications

Included:

- Robert Sommer
- Robert Gutman
- W.C. Libby
- Environment & Behavior Periodical







DEPARTMENT OF PSYCHOLOGY

DAVIS, CALIFORNIA 95616

November 4, 1975

Robert Sommer Letter

Mr. Kevin Manning

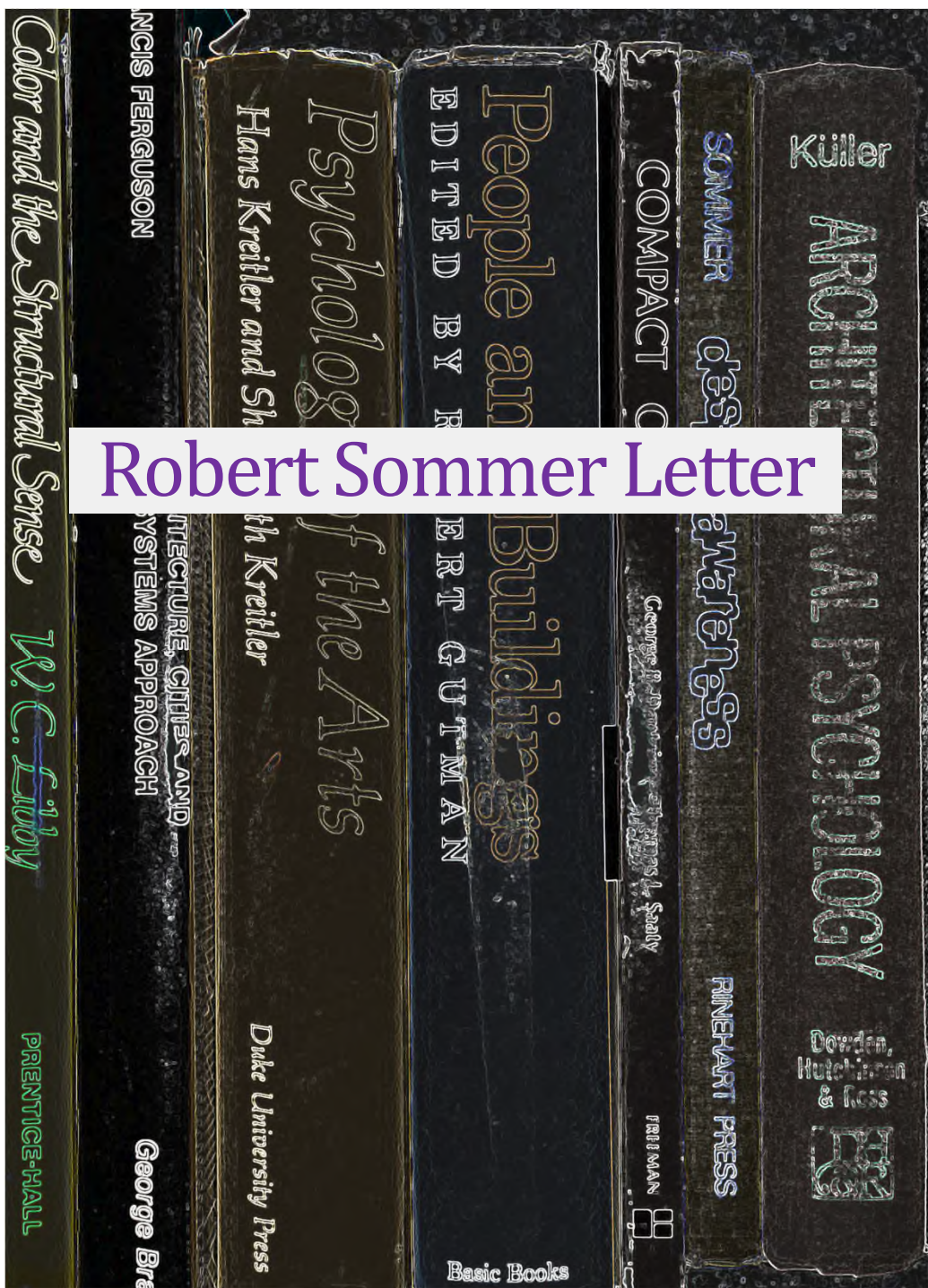


Dear Kevin Manning,

The behavioral literature on office design is rather scarce. I tried to put some of it together in my chapter in Tight Spaces. You'll find a number of references there. In terms of specific hypotheses, I think that many are possible in terms of comparing open and closed plan offices--hypothesizing that the greatest dissatisfaction will be found at the middle levels of management who formerly enjoyed private offices but are not in open plan arrangements, as compared with top management which came from private offices and lower echelon personnel who never had them. Also, many hypotheses on propinquity and interaction are available in the literature, as are various hypotheses relating to distance from windows and satisfaction with lighting. I hope this is helpful.

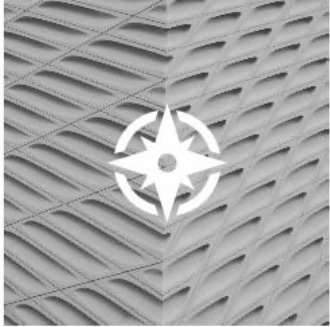
Sincerely,

Robert Sommer





# Study Development, Design & Execution



## Concept

A statistical study with measurable data, dealing with office space. Do different office settings elicit different responses from users on the same factors measured?

## Hypothesis

Sought ideas from Robert Sommer but elected to use my own:

Office workers will respond differently to a set of self-reported factors depending on office layout or setting.

## A Subject & Population

1. Homogenous population
2. 3 or 4 distinct office layouts
3. Large population of subjects

## Development of Experiment

Observation?  
Questionnaire? Both?  
Neither? Address Management needs or Researcher's needs?

## Execution & Results

Insure validity of test.  
Collect and sort responses.  
Run statistical analysis.  
Prepare report.





Unigard Insurance Company,  
Bellevue, Washington





Bull Pen



Open Office/Burolandshaft





File Partition



Service Area



Perceptions of different factors do not change as office configurations change.



Null Hypothesis



# Seattle University



## BUILDING PERFORMANCE QUESTIONNAIRE

Unigard Insurance in cooperation with the Sociology Department of Seattle University has developed the questionnaire which you now hold in your hand.

### THIS IS NOT A TEST

Unigard and Seattle University would like to determine if your new building is meeting your needs as a employee; if the physical layout could be changed to make your job easier. The findings could also be used when new buildings are built by Unigard.

### THE QUESTIONNAIRE IS TO BE ANONYMOUS

We would like to invite your cooperation in filling out this questionnaire. It is short (about seven minutes), easy to read, and we believe that much information can be gained by your participation. The results of the questionnaire will be available if you so desire.

The directions are simple, just turn the page and begin.



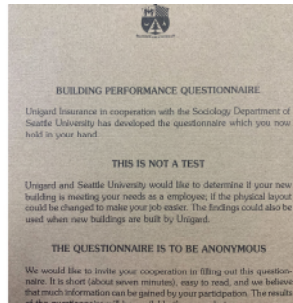
Questionnaire



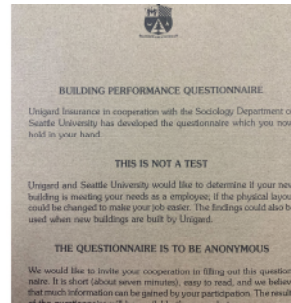
# Data

Experiment numbers

## Duration: 72 hours



**200**  
**Questionnaires**  
**&**  
**Total**  
**Employees**



**n=145**  
**Returned**

**72.5%**



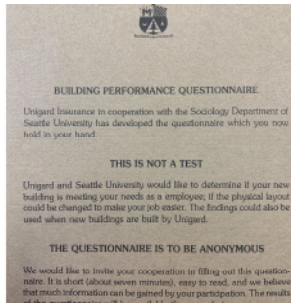
**Distribution**  
**Between Configurations**

- Burolandschaft = 25
- File Partition = 45
- Bull Pen = 45
- Services = 30

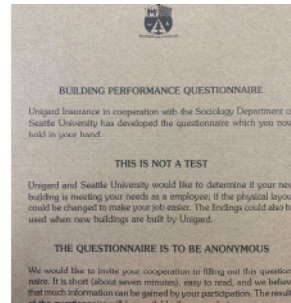


# Methodology

Tests performed



Sorted into:



K-S test on  
each  
furniture  
grouping  
establish  
mean data



AOV +T  
tests of  
factors  
performed  
between  
furniture  
groups to  
reject  
Ho

- Burolandschaft = 25
- File Partition = 45
- Bull Pen = 45
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# Mean Response Comparisons

Sound Transmission was clearly an issue



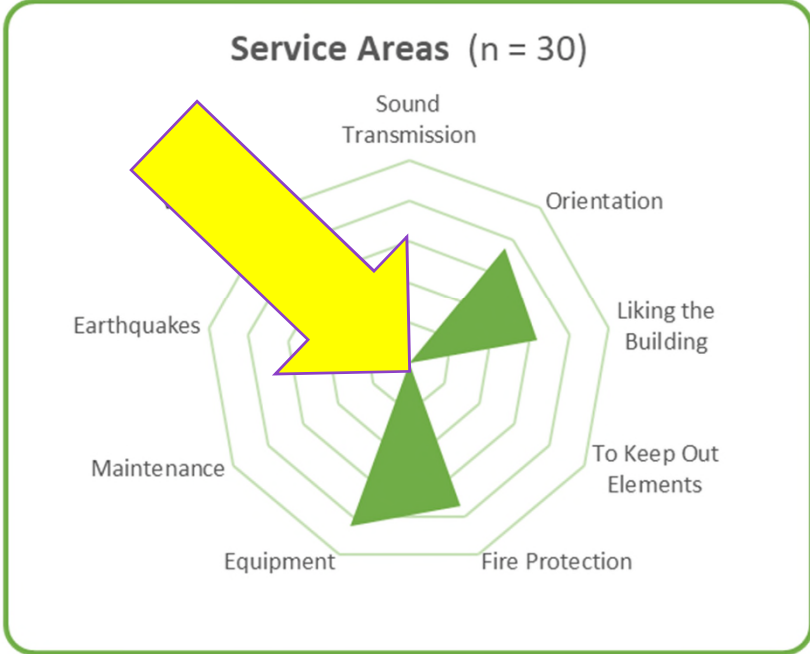
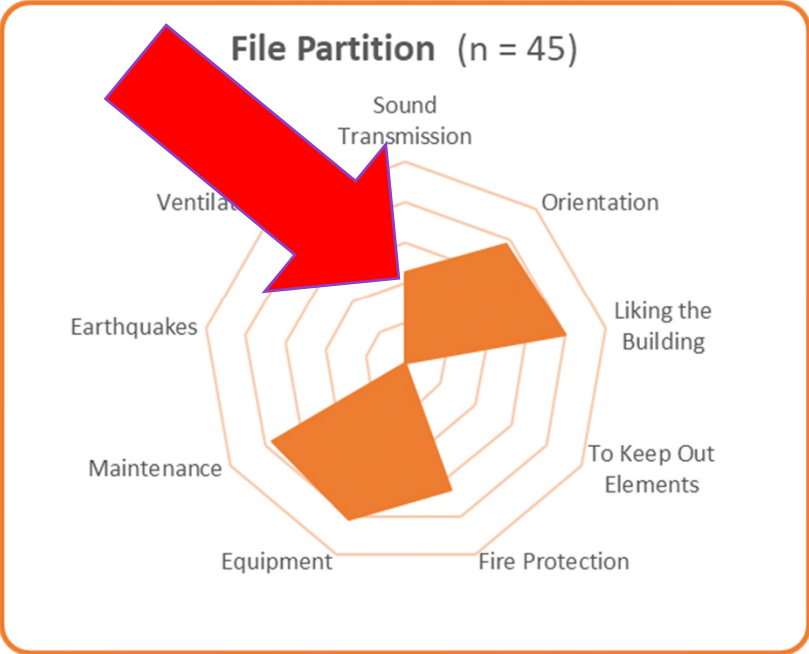
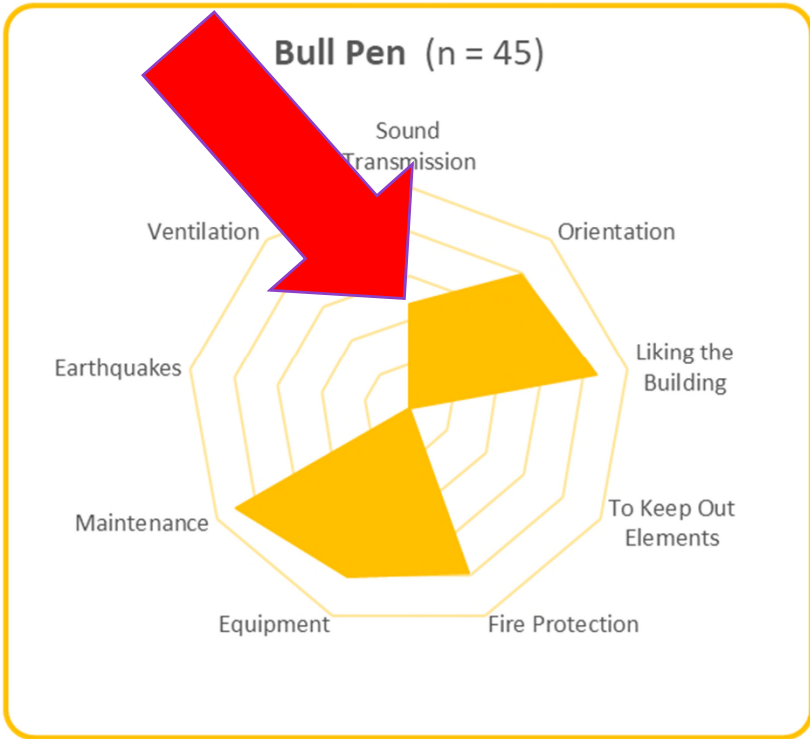
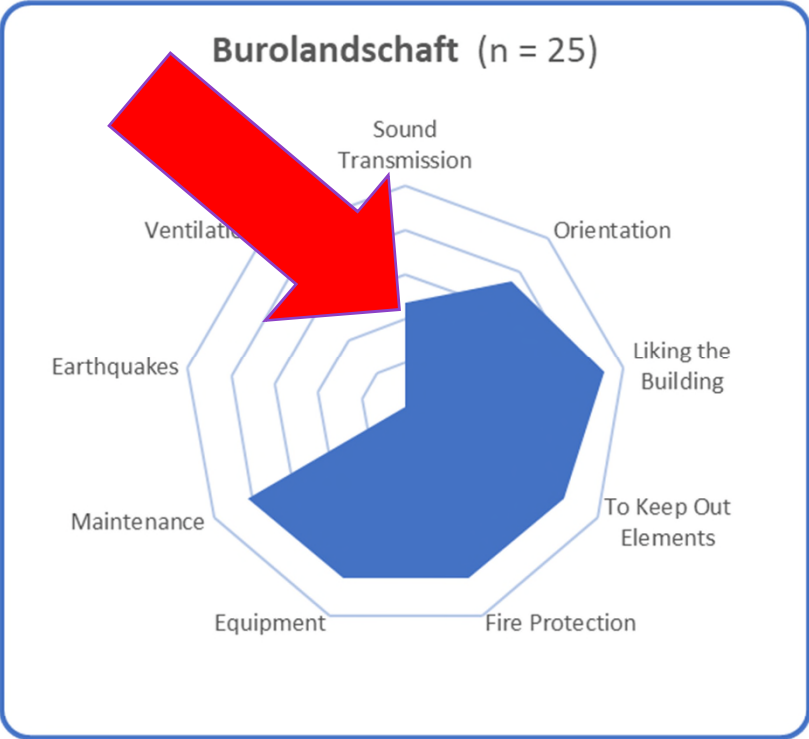


# Statistically Significant Differences Between Groups

Significant Level:  $p=0.05$

	Burolandschaft	File Partition	Bull Pen	Services
Sound Transmission	ACCEPT	REJECT	REJECT	ACCEPT
Orientation	ACCEPT	REJECT	REJECT	ACCEPT
Liking the Building	ACCEPT	REJECT	REJECT	REJECT
To Keep Out Elements	REJECT	REJECT	REJECT	REJECT
Fire Protection	REJECT	REJECT	REJECT	REJECT
Equipment	ACCEPT	REJECT	REJECT	ACCEPT
Maintenance	REJECT	ACCEPT	ACCEPT	ACCEPT
Earthquakes	REJECT	REJECT	REJECT	ACCEPT
Ventilation	ACCEPT	ACCEPT	ACCEPT	ACCEPT

# AOV + T Test Results:



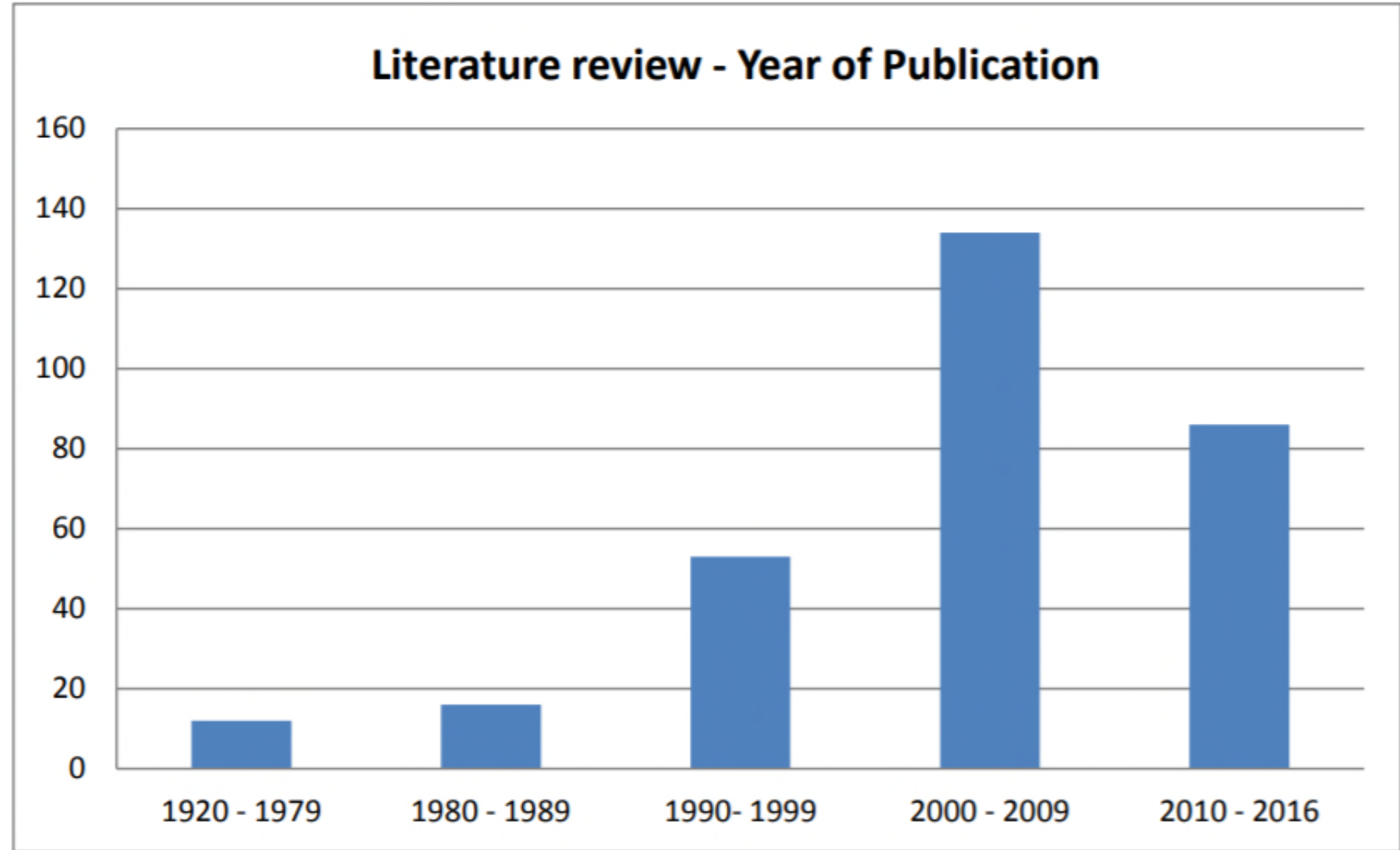


- Unwanted noise was a major factor in all but the Service Setting environment where it was actually noisy, leading to a possible new study on expectations of a setting
- Respondents overwhelmingly liked the building
- Respondents complained about lack of filing space
- All other factors were found to be acceptable in all configurations and proved No
  - Maintenance
  - Fire Protection
  - Orientation
  - Keeping out elements

## Summary

# Increase in Interest and Studies

University of Salford, UK



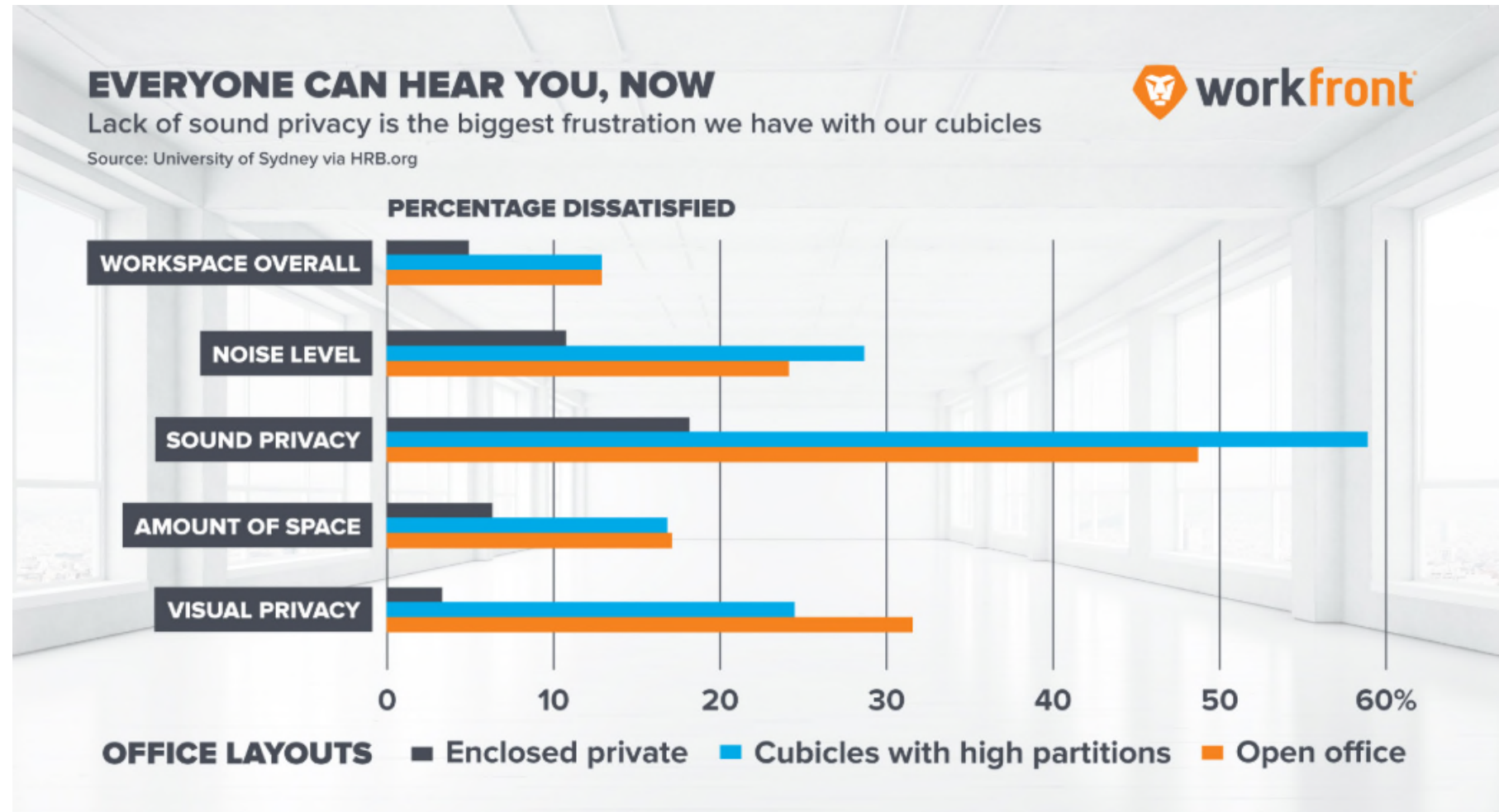


# More Recent Studies

University of Sydney 2013



## Workspace satisfaction: The privacy-communication trade-off in open-plan offices



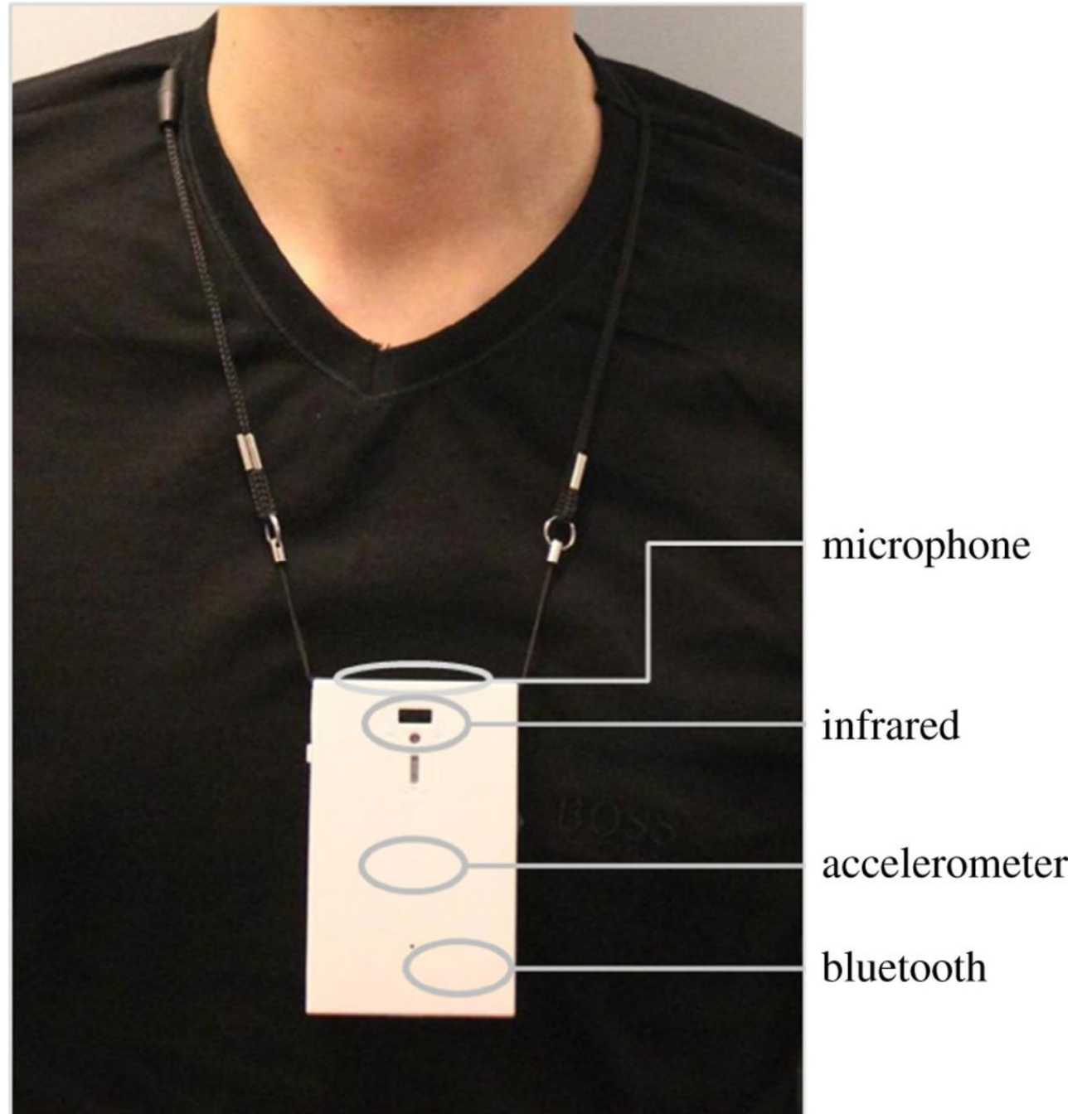
## More Recent Studies

Harvard 2018



# THE UNINTENDED EFFECTS OF OPEN OFFICE SPACE:





DECREASED  
COLLABORATION







# Thank You

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