

WORK SURFACE HEIGHTS AND ADJUSTMENTS

The purpose of this study was to analyze the extent and nature of office work surface height adjustments that occurred when workers had the option and support to do so. Satisfaction with work surface adjustments, chair adjustments, and the physical work environment were also studied.

During the second and third weeks of October 1988 the Research Group surveyed a majority of workers in HMI Building B and took selected work station and personal measurements; responses from 180 people were included in the analysis. The employees surveyed are engaged in administrative support functions such as payroll, finance, and personnel administration.

Work stations in the building are arrayed in an open system environment. The size of work areas are: a) 7 1/2 x 7 1/2, b) 7 1/2 x 10 or c) 10 x 10; most people have individual rather than shared offices. The building layout and pictures of typical work stations are enclosed. People have been in this current environment about two years.

Work Surface Adjustments and Satisfaction

1. A small percentage of people opted to have the height of their work surface changed.

Overall 13% of the workforce reported that they had had the height of their work surfaces changed. However, men indicated they had changed three times more often than women, 21% versus 7%.

2. Primary and secondary work surface heights clustered around 29 inches.

The average height of primary work surfaces was slightly under 29 inches. Heights ranged from 20.5 to 30.25 inches. 89 % of the sample had work surface settings between 28 and 29.9 inches.

A large proportion of the workers (63%) had a secondary work surface. The average height of the second area, exclusive of stand up stations, was also 29 inches; surfaces ranged in height from 20.6 to 29.8 inches.

3. Most people were satisfied with their current work surface heights.

Overall 86 % of those surveyed indicated that the present height of their work surfaces was satisfactory. Those who had not had their work surfaces adjusted were equally satisfied with their work heights as those whose work areas had been raised or lowered.

4. Little interest was expressed for relatively high work surfaces.

Only 6% of the sample had work surface heights at 30 inches or greater; some expressed interest in stand up desks. 7% indicated a preference for work surfaces higher than their present setting; the same percentage wanted lowered surfaces.

5. Those with relatively high work surfaces tended to be tall, but not all tall people had higher work surfaces.

Only 15% of the men at 6' or taller elected work surfaces 30 inches or higher. On average men with high work surfaces (30" or higher) were about 2 inches taller than the other men.

Half of the women at 6 feet or taller worked at surfaces 30 inches or higher. On average women with higher work surfaces were about 4 inches taller than other women.

Chair Height Adjustments and Height Satisfaction

6. Most people have adjusted their chair height but tend to do so very frequently or very infrequently.

The majority of people (93%) reported that they had changed their chair height at some time; 88% reported their present chair height was satisfactory. Although virtually all chairs had easily changed pneumatic adjustment mechanisms, 4% wanted higher seating while 8% wanted lower settings.

Reported chair height adjustment behavior falls at the ends of the spectrum, either seldom or very frequently. Around 60% reported changing only once a month or less while about 11% reported changing almost every day or several times a day; the remainder reported changes between these extremes.

Work Surface and Chair Combinations

7. The majority of workers reported satisfactory combinations of work surface and chair heights.

Of those reporting both work surface and chair height preferences, people who were satisfied with work surface heights (88%) were also mostly satisfied with chair heights (93% of the 88%).

Some were dissatisfied both with work surface and chair heights. Those wanting lower work surfaces already had relatively low settings and were shorter than those who were satisfied. Conversely, those who wanted higher settings already had settings slightly higher than those who were satisfied, and they were somewhat taller.

Satisfaction With the Open Systems Environment and Work Stations

8. Workers view the open systems work environment favorably; they have positive but less favorable opinions about their individual work stations.

Overall, workers indicated high satisfaction with the open systems office environment, reporting a mean satisfaction rating of 2.5 on a scale of 1 (most favorable) to 10 (least favorable).

Respondents were less pleased with their personal work space than with the systems work environment as a whole. However, they still rated their individual work stations somewhat favorably, an average of about 4 on a scale of 1 to 10 (least favorable).

9. Significant correlations were found between reported bodily discomfort and satisfaction with chair and work surface heights, and satisfaction with work stations in general.

Those who reported a lower degree of bodily discomfort tended to be more satisfied with work surface and chair heights, and more satisfied overall with their work stations than did those who reported more discomfort. While these findings point to important relationships, causality has not been established.

Over 70% of the workforce reported no discomfort or only occasional discomfort in any part of their body: neck, upper and lower back, buttocks, and legs. Less than 1% reported unbearable discomfort in any area.

Discussion

10. The range of observed work surface heights and incidence of changed heights suggests the need for work surfaces of varying heights, and/or for adjustable work surfaces.

While the majority of work surface heights fall within a two inch range of about 28 to 30 inches, this represents a significant variation in preferred working height that needs to be accommodated.

Although only a small fraction of the workforce had their work surface heights changed (13%), this does suggest a need of which facility managers should be aware and prepared to address.

11. With respect to the height of seated work surfaces, there is little demand or apparent need for surfaces above 29 or 30 inches.

One could hypothesize that workers are not aware that a higher surface could be beneficial. However, the correlations between preferred height settings and various measures of satisfaction and bodily discomfort would seem to suggest otherwise.

Also there might be greater interest in a higher work surface if chairs could be raised higher than it is typically possible now. In this study a cadre of about 15% were observed with chair settings at or near the maximum. Conversely only about 5% of the sample had chair settings at or near the minimum. We will conduct follow up analyses to gain a better understanding of these findings, and of their implications for chair and work surface settings.