

Satisfaction levels with presence of nature and indoor plants: preliminary study among office employees working in Chandigarh offices

Dr. Gurkirpal Singh

I K G Punjab Technical University, Jalandhar, Punjab, India

Received: May 14, 2018

Accepted: June 15, 2018

ABSTRACT

Chandigarh is located near the foot hills of Shivalik range. The city Chandigarh because of its unique concept is known as 'City beautiful'. It is one of the greenest cities of India with its 1400 nos. green belts / parks/ gardens. A considerable number of IT industries have already setup base here in Chandigarh and started employing office employees. As a result number of people working in office premises is going to increase considerably in years to come. There is a need to find out the satisfaction with nature and indoor plants among employees working in Chandigarh offices. A total of 660 employees from various offices of Chandigarh were recruited as sample. The age range of the sample was between 25 to 60 years. The questionnaire used was an adapted and modified version of already existing scales of occupants' satisfaction with indoor environment quality (IEQ) components of other buildings by different researchers. Results indicate that approximately eighteen percent of the employees working in private and public sector offices in Chandigarh have potted plants in their work areas. only approximately 30-40 percent reported having nature and its view at their work place. There is need to incorporate plants into the offices as plants have been proven to be beneficial to one's health and wellness. Plants can help reduce stress and sickness, which will increase productivity, cognitive attention, and limit absences. In addition, plants can help reduce noise, increase creativity, and can help provide cleaner air for everyone by filtering out bacteria and mold.

Keywords: *naure, plant, satisfaction, environment, performance, comfort*

Introduction

Chandigarh is located near the foot hills of Shivalik range. The city Chandigarh because of its unique concept is known as 'City beautiful'. It is one of the greenest cities of India with its 1400 nos. green belts / parks/ gardens. A considerable number of IT industries have already setup base here in Chandigarh and started employing office employees. As a result number of people working in office premises is going to increase considerably in years to come.

Natural world consist of elements like mountains, plants, trees, animals, or rivers. Few of these components of nature can be incorporated within the office design. Far less attention has been paid to the influence of environmental factors on employee Health /well-being. There are two main types of studies that investigate environmental factors. The first looks at the impact of some aspect of 'nature' in the workplace, usually the ambient environment (Wallenius, 2004; Ljungberg and Neely, 2007; Winterbottom and Wilkins, 2009). The second looks more directly at access to nature, either through views of nature or plants in the workplace. Views of nature have been found to improve office worker well-being , natural views and plants are preferred work environments (Kaplan, 2007; Dravigne et al., 2008), and plants in the workplace have been linked to better health (Fjeld et al.,1998), less fatigue in academic environments (Khan et al., 2005).

In India this is a new area of research. The physical aspects of the work environment do not always receive as much attention as the managerial and interpersonal aspects. There is a need to find out the satisfaction with respect to nature and indoor plants among employees working in Chandigarh offices.

Methodology

Sample

A total of 660 employees from various offices of Chandigarh were recruited as sample. The age range of the sample was between 25 to 60 years. The employees who were working for the last three years in a particular organization were considered for inclusion in this study. The research took place approximately three year post-occupancy to eliminate effects related to occupants being satisfied with the building because it was new and different (Franke & Kaul, 1978). The minimum educational qualification of the selected subjects was graduation.

Questionnaire

The data collection instrument for this study was a structured questionnaire developed by the researcher with the help of experts. The questionnaire is adapted and modified version of already existing scales of occupants' satisfaction with indoor environment quality (IEQ) components of other buildings by different researchers. The questionnaire items were developed to reflect the satisfaction/comfort/productivity components of the office environment. The questionnaire for the study contained 44 total items pertaining to employees' general demographics and satisfaction with thermal, acoustic, and lighting conditions. Thirty-two items of the questionnaire were related to the occupants' satisfaction of the IEQ components of thermal, acoustic, and lighting conditions. They were rated by the occupants based on a five-point Likert-type scale (1= "very dissatisfied" to 5 = "very satisfied").

Data Analysis

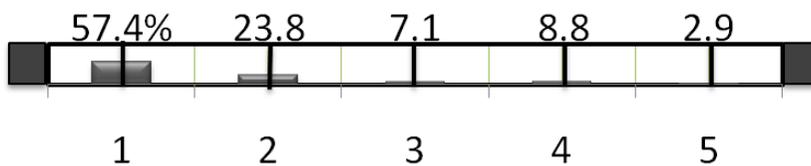
For result findings and in-depth analysis of the different components of office environment on the productivity of the office employees, descriptive statistics has been used. SPSS 16 software as research tool for data analysis was used for this research.

Results and Discussions

The respondents ask about the following questions regarding indoor plants and nature in different public sector and private sector offices and evaluate the responses in terms of frequency distribution. There are four main questions which ask from the employees regarding this.

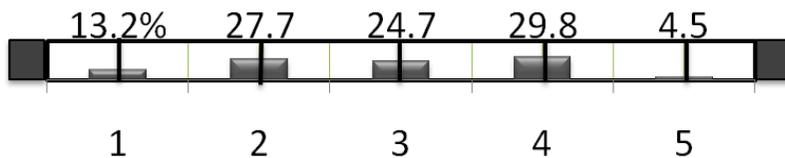
1. Potted plants are there in my room incorporated /work area

57.4% Not at all , 23.8% To some extent, 7.1% Often, 8.8% Mostly, 2.9% Always



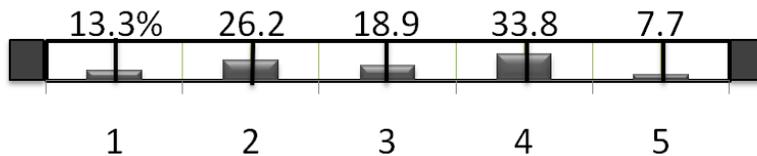
2. Nature is adequately in my work place

3.2% Extremely dissatisfied, 27.7% Dissatisfied, 24.7% Neutral, 29.8% Satisfied, 4.5% Extremely satisfied



3. I have view of Nature/ plants from work place

13.3% Extremely dissatisfied ,26.2% Dissatisfied, 18.9%Neutral, 33.8% Satisfied, 7.7% Extremely satisfied



4. To what extent presence of Nature /Plants control your Productivity

17.3%No effect, 25.9% Increase by 20%, 28.2% Increase by 30%, 12.0% Increase by 40%, 16.7% Increase by 50% or more

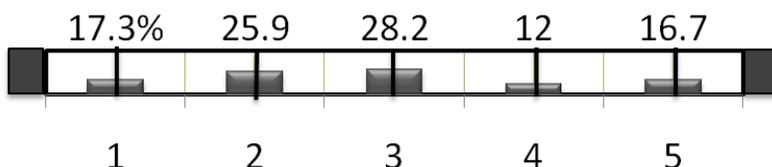


Table 1: Satisfaction with Nature/Plants in Office

Question	Response(%)
Potted plants are there in my room incorporated /work area	18.8
Nature is adequately in my work place	34.3
I have view of Nature/ plants from work place	41.5
To what extent presence of Nature /Plants control your Productivity	82.7

There is an increasing body of literature in the west on the benefits of planted views to building occupant health and wellbeing. Kaplan and Kaplan (1989), researching the psychological benefits of natural surroundings, found they relieved 'attention fatigue', and acted as 'restorative environments'. View-settings with dominant vegetation can even foster restoration from stress (Ulrich et al., 1991). According to Roger Ulrich, environmental psycho-physiologist at Texas A & M University, even a fairly brief visual contact with plants might be important for promoting restoration from the detrimental effects of commuting, work pressure and other stressors that most urbanites encounter daily. Fjeld and Bonnevie (2002) reported that use of indoor plants may affect productivity, work satisfaction and even absence due to sickness. From an economical point of view, it should be of great interest to include plants as a work environment asset, since only small investments are necessary in order to establish a "green" indoor environment. In addition – and probably just as important - the personal well-being and the quality of the everyday working situation may be increased for the employees.

Plants or greenery is not an independent factor in the perception of quality in and of itself. Greenery can have an influence through the other factors, especially air quality and arrangement of the workplace (aesthetic). Plants can also have an indirect influence on neurological health factors (influencing stress). Plants are capable of absorbing numerous (chemical) pollutants in the air. Plants increase the relative air humidity. Especially in the winter, when complaints about dry air are most frequent, plants can help alleviate the problem. Their influence is only limited in offices with natural ventilation systems, but the effect on both air quality and relative humidity can be larger in buildings with mechanical ventilation.

Conclusion

It can be concluded that approximately eighteen percent of the employees working in private and public sector offices in Chandigarh have potted plants in their work areas. only approximately 30-40 percent reported having nature and its view at their work place. There is need to incorporate plants into the offices as plants have been proven to be beneficial to one's health and wellness. Plants can help reduce stress and sickness, which will increase productivity, cognitive attention, and limit absences. In addition, plants can help reduce noise, increase creativity, and can help provide cleaner air for everyone by filtering out bacteria and mold.

References

- Dravigne, A., Waliczek, T. M., Lineberger, R. D., and Zajicek, J. M., (2008), "The Effect of Live Plants and Window Views of Green Spaces on Employee Perceptions of Job Satisfaction," *HortScience*, 43, pp.183-187.
- Fjeld, T., and Bonnevie, C., (2002), "The Effect of Plants and Artificial Day-Light on the Well-Being and Health of Office Workers, School Children and Health Care Personnel," Seminar Report: Reducing Health Complaints at Work Plants for People, Int. Hort. Exhib. Floriade.
- Kaplan, R., (2007), "Employees' Reactions to Nearby Nature at their Workplace: The Wild and the Tame," *Landsc. Urban Plan.*, 82 (1-2), pp.17-24.
- Kaplan, R., and Kaplan, S., (1989), *The Experience of Nature: A Psychological Perspective*, Cambridge University Press, New York.
- Khan, A., Adnan, Y., and Munsf, N A., (2005), "Impact of Well Planned Landscape on Producing Quality Environment for Prisoners," *Journal of Agriculture and Social Sciences*, 1(1), pp. 69-70.
- Ljungberg, J. K., and Neely, G., (2007), "Stress, Subjective Experience and Cognitive Performance during Exposure to Noise and Vibration," *Journal of Environmental Psychology*, 27, pp. 44-54.
- Ulrich, R.S., Simons, R.F., Losito, B.D., Fiorito, E., Miles, M. A., and Zelson, M., (1991), "Stress Recovery During Exposure to Natural and Urban Environments," *J. Environ. Psychol.*, 11 (3), pp. 201-230.
- Wallenius, M. A., (2004), "The Interaction of Noise Stress and Personal Project Stress on Subjective Health," *Journal of Environmental Psychology*, 24, pp. 167-177.
- Winterbottom, M., and Wilkins, A., (2009), "Lighting and Discomfort in the Classroom," *Journal of Environmental Psychology*, 29, pp. 63-75.