



## SATISFACTION WITH OFFICE NOISE AND EMPLOYEES PRODUCTIVITY

Dr. Gurkirpal Singh

Head of Department, IKG Punjab Technical University, Jalandhar

**ABSTRACT** Noise is considered to be unwanted or undesirable sound. It penetrates the work place, and recreational areas, the home and can create a disturbance at all hours of the day. Review of scientific studies has confirmed that excessive noise in office environments can be a source of disruption, stress and ultimately a decrease in the productivity to office workers. In India 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 relationship of perceived satisfaction with office noise on employees productivity. A total of 250 employees from various offices of Ludhiana were recruited as sample. The age range of the sample was between 25 to 50 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 employees productivity is positively correlated with satisfaction with noise in Indian population. Noise is another important concern in designing an appropriate office that managers must pay attention to increase employees' productivity.

**KEYWORDS :** environment, Noise, perceived satisfaction, correlate, Design, Built environment

### Introduction

Working conditions in the office are gaining attention, both in regards of the interaction of the office worker with the psycho-social environment and of the built environment, out of which sound is an important characteristic. Noise is considered to be unwanted or undesirable sound. It penetrates the work place, and recreational areas, the home and can create a disturbance at all hours of the day. The effects of noise on people are varied. Noise disrupts activity, disturbs sleep and hinders people carrying out their work. It can impede the learning process, psychological development, social activity and verbal communication, and impairs job performance and safety in the workplace (Paul, 1995).

A review of scientific studies has confirmed that excessive noise in office environments can be a source of disruption, stress and ultimately a decrease in the productivity to office workers. Sundstrom et al. (1994) reported that noise is probably the most prevalent annoyance source in offices, and can lead to increased stress for occupants. In a 1995 building case study of an office building there was 35% reduction in common colds for occupants of individual offices, as compared to occupants of shared offices (Jaakkola and Heinonen, 1995). Quible (1996) points out that excessive noise can affect employees psychologically due to an increase of blood pressure and metabolic rate, which in turn can decrease their productivity. Improving the office sound can lead to increase in employee productivity (Kelsall, 2002). According to Dyna sound Collaborative Studies of five major corporations, noise contributes the biggest proportion on the office environment distractions at 71%, followed by air (20%) (Folsom, 2002). In a study conducted by Hameed and Amjad (2009) on impact of office design on employees' productivity in Pakistan they found significant positive co relation between satisfaction with noise level and employees productivity. In India there is dearth of research in this area. 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 relationship of perceived satisfaction with office noise on employees productivity.

### Methodology

#### Sample

A total of 250 employees from various offices of Ludhiana were recruited as sample. The age range of the sample was between 25 to 50 years. The employees who were working for the last three years in a particular organization were considered for inclusion in this study. 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.

#### Data Analysis

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

### Results and Discussion

**Table 1: Descriptive Statistics**

Variables	Mean	Std. Deviation	Respondents (N)
Productivity	3.51	.73	250
Noise	3.43	.72	250

**Table 2: Coefficients of Correlations between Productivity and Element of Office Design**

Sr. No.	Variable	(r)
1	Noise	.168**

\*\* Significant at .01 levels

It is clear that employees productivity is positively correlated with satisfaction with noise levels in the office. Results of present study are supporting previous research (Kyriakides and Leventhall, 1977; Landström et al., 1991; Holmberg et al., 1993; Sundstrom, 1994; Quible, 1996; PerssonWaye et al., 1997; Evans and Johnson, 2000; Smith, 2000; PerssonWaye et al., 2001; Folsom, 2003; Sykes, 2004; Perham, Banbury & Jones, 2007). Satisfactory noise levels in the office seem to be prerequisite for adequate performance levels of the employees. Keeling and Kallaus (1996) stated that people cannot achieve good performance in a silent environment, because at some level, sound may generate a healthy background and can also assist employees accomplish their work. Quibble (1996) described that following this immoderate noise can impact psychologically on the employees which in the end can decline their productivity. So it is imperative that we pay utmost attention to our indoor environment to achieve optimal level of effective productivity.

#### References

- Evans, G. W., and Johnson, D., (2000), "Stress and Open-Office Noise," *Journal of Applied Psychology*, 85(5), pp. 779-783.
- Folsom, F. (2002), "Productive Silence: Noise Distraction Affects Employee Satisfaction and Product," *Buildings*, 96(5), from ABI/Inform Database, Assessed on March 27, 2013.
- Hameed, A., and Amjad, S., (2009), "Impact of Office Design on Employees' Productivity: A Case Study of Banking Organizations of Abbottabad, Pakistan," *Journal of Public Affairs, Administration and Management*, 3(1), pp.1-13
- Holmberg, K., Landström, U., and Kjellberg A., (1993), "Effects of Ventilation Noise Due to Frequency Characteristic and Sound Level," *Jnl Low Freq Noise Vibn*, 16, pp. 115-122.

5. Jaakkola, J. J.K., and Heinonen, O.P., (1995), "Shared Office Space and the Risk of the Common Cold," *European Journal of Epidemiology*, 11, pp. 213-216.
6. Kyriakides, K., and Leventhall, H.G., (1977), "Some Effects of Infrasonid on Task Performance," *J. Sound Vib.*, 50(3), pp. 369-388.
7. Keeling, B., Lewis, Kallaus, N., et al., (1996), *Administrative Office Management*. 11th Edition, International Thompson Publishing, Ohio.
8. Kelsall, T., (2002), "Shop Windows and Smoke-filled Rooms: Governance and the Re-Politicisation of Tanzania," *Journal of Modern African Studies*, 40 (4), 597-620.
9. Landström, U., Kjellberg, A., Söderberg, L., and Nordström, B., (1991), "The Effects of Broadband, Tonal, and Masked Ventilation Noise on Performance, Wakefulness and Annoyance," *J. Low Freq. Noise Vib.*, 10, pp. 112-122.
10. Paul, R. D., (1995), "Effects of Office Layout and Sit-Stand Adjustable Furniture: A Field Study." Reprinted with permission from Proceedings of the Human Factors and Ergonomics Society 39th Annual Meeting, The Human Factors and Ergonomics Society.
11. Perham, N., Banbury, S., and Jones, D. M., (2007), "Do Realistic Reverberation Levels Reduce Auditory Distraction?" *Applied Cognitive Psychology*, 21(7), pp. 839-847.
12. Persson Waye, K., Bengtsson, J., Kjellberg, A., and Benton S., (2001), "Low Frequency "Noise Pollution" Interferes with Performance," *Noise and Health*, 4, pp. 33-49.
13. Persson Waye, K., Rylander, R., Benton, S., and Leventhall, H.G., (1997), "Effects of Performance and Work Quality Due to Low Frequency Ventilation Noise," *Jnl Sound and Vibration*, 205(4), pp. 467-474.
14. Quible, Z. K., (1996), *Administrative Office Management: An Introduction*. 7th. Ed., Prentice-Hall, Upper Saddle River, New Jersey, pp 77-101.
15. Smith, J. J., (2000), "The Sound of Silence," *Buildings* 94(3), from WilsonSelectPlus database, Assessed May 20, 2014.
16. Sundstrom, E., Town, J.P., Rice, R.W., Osborn, D.P., and Brill, M., (1994), "Office Noise, Satisfaction, and Performance," *Environment and Behavior*, 26(2), pp. 195-222.
17. Sykes, D. M., (2004), "Productivity: How Acoustics Affect Workers' Performance in Offices & Open Areas," from Office Sound Masking Solutions, by Speech Privacy Systems, from [www.speechprivacy.com/files/Productivity.pdf](http://www.speechprivacy.com/files/Productivity.pdf), assessed on February 1, 2012.