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### PHYSICAL WORKPLACE DESIGN: PREDICTOR OF TEACHERS' PERFORMANCE AT SECONDARY LEVEL IN PAKISTAN

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#### **ABSTRACT**

Workplace design plays a crucial role in development of teachers' skills as well as in their performance. In this study workplace design considered as a predictor of teachers' performance at secondary schools. It was hypothesized that the four workplace design factors; workplace spaces, lighting and ventilation system, furniture and noise level have a significant relationship with teachers' performance. For this purpose, 231 secondary schools' teachers and 33 headmasters was taken as a sample. Pearson Product Moment Correlation technique was used for identifying the correlation between physical workplace design factors and teachers' performance. To find out the results, researcher designed the two questionnaires; physical workplace factors questionnaire for tutors and other was filled by headmasters to evaluate the teachers' performance. The results of this research revealed the no substantial effect of workplace design on teachers' performance. Teachers perform their tasks well without considering the classrooms conditions and environment. As a result of finding, it is suggested that these factors must be further examine to confirm the correlation between workstation design and employees' performance. Moreover, this research should be carried on different educational levels. Various teachers and educational institutes' level will help to evaluate the efficacy of determined results.

#### **INTRODUCTION**

Workplace design plays a very vital role in teachers' performance. Generally, it is assumed that employees show more productivity if they are satisfying with their working environment. According to (Chandrasekar, 2011), workplace design factors play very important part in the high performance of teachers. If

workplace has no proper lightning system, dim color theme, uncomfortable furniture and noisy setting then it is sure that teachers would not able to performance well in that organization. Teachers performance can be better if organization provide the proper workplace design and they are satisfying with their workplace. Properly designer physical factor of workplace can boosts the teachers and eventually increase their productivity (Hasun & Mohd, 2005). According to architecture and design firm's workplace survey, workplace design has a direct relation with employee's performance (Govindarajulu & Daily, 2004).

According to Hasun and Mohd (2005), Noah and Steve (2012) and (Nasidi et al., 2019), workplace is fully filled form of many types of factors, strategies, plan etc. which help to make that workplace effective and provide challenges and opportunities to employees for increasing their skills and performances and help to increase the organizational outputs. When workplace is properly design and as according to employees' needs where they can share their knowledge with each other then it may cause to increase the performance of employees and productivity of organization. So it is important for an organization to design workplace with high concentration of employees' need and organizational goals which help to promote positive relations between employees and workplace design factors (Imran et al., 2012; Noah & Steve, 2012; Van Rooij, 2017).

Properly designed physical workplace design factors are integral part of any organization. Leaman and Bordass (2017) stated that physical workplace factors should be properly design so that employees feel comfortable at their jobs and produce the stress-free environment. He is also stated that properly design physical factors help to produce the positive relations between the employees and helps to amplify the worker's performance and organizational productivity. Organizations that discount the physical workplace design factors they are not able to gain high performance from their employees and organizational productivity. According to Davis et al. (2011), Organizations that fulfill the employees needs related to physical workplace design factors, so they may be more successful in productive. Positive and properly physical workplace design increases the sensory motivation of employees by the help of effective use of lightning system, colors, furniture, workplace spaces etc.

**Workplace Spaces:** The effective organization is that which provides the properly workplace spaces to their employees so they can perform their duties with any interruption. A properly design workplace spaces shows the significant role in obtaining organizational goals. According to Wells (2000) in any organization there is must need to provide the separate table and personal spaces to each employee. It shows the commitment of employees with their organization. Researches shows that organizations which provide the proper workplace spaces their employees shows more commitment with their work and they able to build positive relations and produce effective communication with each other (Panimalar & Kannan, 2013).

**Lighting and ventilation:** lighting and ventilation is considering very important factor for the physical workplace design. (Farley & Veitch, 2001; Veitch et al., 2001) stated that the organizations which provide the properly lighting and

ventilation system to their employees, they are able to gain more productivity from their employees. According to Steelcase workplace index survey (1999), 56% employees stated that low light level at their workplace cause sleepy and watery eyes while thirty percent employees said that low and poor light system cause headache. Many researches also emphasis on the ventilation system. It stated that proper ventilation system in organization cause to improve employees' commitment with their work and increase their productivity (Panimalar & Kannan, 2013).

**Furniture:** furniture also plays a very vital role in effective working of organizational work. Comfortable designed furniture helps to increase the comfort of employees at their workplace and they can perform their duties without any problem. Uncomfortable furniture can lead the demotivation of employees with their work and duties which may cause the low productivity of organization (Hamilton-Ibama & Simeon, 2021).

**Noise:** Working in noisy environment can hind the employees' skills and motivation and increase the job stress at their workplace. It may also effect the workers' health; physically or mentally (Panimalar & Kannan, 2013). So noise interruption may result the poor performance of employees and low organization productivity. These elements are considered as the fundamentals of physical workplace design of any organization. So there is need to strong and positive physical workplace design should be creating for increasing the teachers' performance and organizational productivity.

### ***Objective of the Study***

This study sought to ascertain that how much the physical workplace design factors affects the teachers' performance at secondary level. It is considered that well design workplace factors play significant role in teachers' performance and for achieving the organization goals and objectives. So present study was specifically design to find the correlation between physical workplace factors and teachers' performance with four physical workplace factors; workplace spaces, furniture, lightning and ventilation system and noise level.

### ***Hypotheses***

The following hypothesis was design to test the relation between workplace design factors and teachers' performance;

**H<sub>1</sub>:** There is significant correlation between workplace spaces and teachers' performance.

**H<sub>2</sub>:** There is significant correlation between lightning and ventilation and teachers' performance.

**H<sub>3</sub>:** There is significant correlation between workplace furniture and teachers' performance.

**H<sub>4</sub>:** There is significant correlation between noise interruption and teachers' performance.

## **METHODOLOGY**

In this study, the researcher main objective was to determine the relationships of workplace design and employees' performance, so researcher used the correlational research design for this study. This research design allowed the researcher to determine the presence and direction of relationship between the variables. The purpose of study was not to establishing any cause-effect relationship between the studied variables.

All the individuals from where the sample is selected is called population (Ali et al., 2021; Amna, 2021; Azeem et al., 2021; Lakhan et al., 2020; Siddique, 2021; M. S. A. Nasrin et at, 2021; Nasrin et at, 2021).

The selected individuals form the population on the basis of specific technique is called sample (Siddique et at, 2021; Sajjad et al., 2022; Siddique, 2016; Siddique et al., 2020; Siddique, 2020; Siddique et al., 2021; Wajiha at al, 2022; Zikra et al., 2021). All public schools at Lahore district was considered as the population of this research. So according to data by school education department (2017), there were total 155 boys ad 179 girls secondary schools. Multistage sampling technique was used for collection of data. By using the stratified random sampling technique, strata were made for boys and girls secondary schools. After that, researcher randomly selected 18 females and 15 males (10% of 179 and 155, respectively) of secondary school. From each selected school, 7 teachers and 1 head teacher was selected for collection of data. Therefore, the entire sample size consisted on 231 teachers and 33 head teachers.

### ***Instrumentation***

The objective of this study was to determine the relationship between physical workplace design factors and teachers' performance in secondary schools of Lahore district. So the researcher used the Likert type scale questionnaires for collection of data. Two questionnaires were developed for collection of data. One was based on 4 different workplace design factors (workplace spaces, lighting and ventilation, workplace furniture, noise) while other was designed to evaluate the teachers' performance with the help of 5 different factors; teaching skills, management skills, discipline and regularity, interpersonal relations and communication skills from the principle.

### ***Collection and Data Analysis***

For the collection of data, researcher personally visited the all sampling schools. Permission letter was sent to all head school heads before visiting the schools for data collection. The questionnaires were distributed among all the teachers. The return rate was 100% because researcher collects the questionnaire by personally. For analysis and interpretation of data, Statistical Package for Social Sciences (SPSS) was used. Researcher used the Pearson product moment correlation to find the relationship between physical workplace design factors and teachers' performance.

**H<sub>1</sub>:** There is significant correlation between workplace spaces and teachers' performance.

**Table 1.** Correlation analysis for workplace spaces and Teachers' performance

			<b>1</b>	<b>2</b>
<b>1</b>	<b>Workplace spaces</b>	Pearson Correlation	1	.102
		Sig. (2-tailed)		.121
		N	231	231
<b>2</b>	<b>Teachers' performance</b>	Pearson Correlation	.102	1
		Sig. (2-tailed)	.121	
		N	231	231

Correlation is significant at the 0.05 level (2-tailed)

Table 1 shows the Pearson product moment correlation analysis between workplace spaces and teachers' performance. As table 1 reveals that there is no significant correlation exists between workplace spaces and teachers' performance ( $r = .102$ ;  $p < .05$ ). So the H<sub>1</sub> is rejected because according to finding it shows that teachers' performance did not affected by the workplace spaces.

**H<sub>2</sub>:** There is significant correlation between lightning and ventilation and teachers' performance.

**Table 2.** Correlation analysis for lightning and ventilation and teachers' performance

			<b>1</b>	<b>2</b>
<b>1</b>	<b>Lightning and ventilation</b>	Pearson Correlation	1	.070
		Sig. (2-tailed)		.286
		N	231	231
<b>2</b>	<b>Teachers' performance</b>	Pearson Correlation	.070	1
		Sig. (2-tailed)	.286	
		N	231	231

Correlation is significant at the 0.05 level (2-tailed)

Table 2 shows the Pearson product moment correlation analysis between workplace lightning and ventilation and teachers' performance. As table 2 reveals that there is no significant correlation exists between lightning and ventilation and teachers' performance ( $r = .070$ ;  $p < .05$ ). So the H<sub>2</sub> is rejected because according to finding it shows that teachers' performance did not affected by the lightning and ventilation and teachers do their duties without considering the amount of light and ventilation system.

**H<sub>3</sub>:** There is significant correlation between workplace furniture and teachers' performance.

**Table 3.** Correlation analysis for Workplace furniture and Teachers' performance

			<b>1</b>	<b>2</b>
<b>1</b>	<b>Workplace furniture</b>	Pearson Correlation	1	.092
		Sig. (2-tailed)		.166
		N	231	231
<b>2</b>	<b>Teachers' performance</b>	Pearson Correlation	.092	1
		Sig. (2-tailed)	.166	
		N	231	231

Correlation is significant at the 0.05 level (2-tailed)

Table 3 presents the Pearson product moment correlation analysis between workplace furniture and teachers' performance. As table 3 shows that there is no significant correlation exists between workplace furniture and teachers' performance ( $r = .092$ ;  $p < .05$ ). So the H<sub>3</sub> is rejected because according to finding it shows that teachers' performance did not affected by the workplace furniture conditions.

**H<sub>4</sub>:** There is significant correlation between noise interruption and teachers' performance.

**Table 4.** Correlation analysis for "Noise" and "Teachers' performance"

			<b>1</b>	<b>2</b>
<b>1</b>	<b>Noise</b>	Pearson Correlation	1	-.005
		Sig. (2-tailed)		.940
		N	231	231
<b>2</b>	<b>Teachers' performance</b>	Pearson Correlation	-.005	1
		Sig. (2-tailed)	.940	
		N	231	231

Correlation is significant at the 0.05 level (2-tailed)

Table 4 shows the Pearson product moment correlation analysis between workplace noise and teachers' performance. As table 4 reveals that there is no significant correlation exists between workplace noise and teachers' performance ( $r = -.005$ ;  $p < .05$ ). So the H<sub>4</sub> is also rejected because according to finding it shows that teachers' performance did not affected by the workplace noise interruptions.

## CONCLUSION AND SUGGESTIONS

The main objective of this research was to analyze that how different workplace factors correlate to teachers' performance at their workstations. As a result of findings, it has proved that workplace factors had no influence on the secondary schools' teachers' performances. It has revealed that teachers performed their duties without considering the physical workplace design conditions. This is quite disagreeing to the finding from studies (Dewe & Cooper, 2007; Dewe et al., 2012; Khalid, 2022; Peiró, 2008; Sabir et al., 2012) which described that importance of workplace condition in achieving the high performance of employees.

According to these researches physical workplace design factors need to be appropriate so that teachers would not feel strained while performing their duties. In their studies they also stated that physical workplace design factors play an important role in establishing the positive relationship of teachers' performance with their organization. The teachers' performance can also be increased by improving the workplace design factors. Furthermore, the finding of this research also rejected the finding of Adnan (2021), in which he reveals that physical workplace design factors are very essential part of any organization which should be properly arranged and design because they highly effect the employees' performance and organizational outcomes.

Jaffri (2015) conducted a research on workplace design factors and its relationship with employees' performance. The results showed the same pattern of correlation of workplace design factors with the employees' performance. No relationship between these variables (lighting, noise and spatial arrangements and employees' performance) has shown in her study, however results of that study showed the positive correlation between workplace furniture and employees' performance.

So on the base of findings, it is recommended that;

- a. Further research will be done on this topic by using different methodology and based on different levels of education. Additional researches on different level (elementary, secondary, higher secondary and university) will help for clearer judge the efficacy of determined results.
- b. The research should also be conducted by using qualitative approaches for more comprehensive understanding.
- c. This study also further replicated to include the more schools to increase reliability and validity of its findings. Replicate study should also be done to determine the relation of workplace conditions with teachers' performance within the remaining districts of Punjab, Pakistan.

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