



## “PHYSICAL ENVIRONMENT STRESS EXPERIENCED BY THE EMPLOYEES OF MSME SECTOR IN COIMBATORE DISTRICT”

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### ABSTRACT

*Business sector these days faces a cut throat competition as a result of liberalization, privatization and globalization, and it calls for the business firms to formulate and implement suitable plans, predict the environment while preparing themselves to make proper adjustments to suit the environmental changes, ensuring effective and fullest utilization of all its resources and voluntary assumption of social responsibilities. Enhanced responsibilities, coupled with inability to achieve the targets, generate stress among the employees. Stress is the psychological and physiological reaction that takes place when one perceives an imbalance in the level of demand placed on the capacity of an individual to meet that demand. The stress, as a result of occupation and work environment, will bring down the efficiency of the employees and performance of the industrial units. The MSME sector (Micro, Small and Medium Enterprises) is playing a crucial role for the industrial and economic development of the nation. Occupational stress is caused by many factors. Physical environment with which the employees spend most of their work time can either act as a source of inspiration or stress. This Research paper traces the perception of the employees of MSME sector in Coimbatore District towards the Physical Environment Stress.*

**Key Words:** MSME, Stress, Occupational Stress, Job Stress, Physical Environment Stress, Coimbatore and Small scale sector.

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## **1. INTRODUCTION**

Human resource has been considered as a peculiar resource among all the resources, as this resource alone has the capability of ensuring the optimum utilization of all the remaining resources that are employed by the industrial units to carry out their operations. Hence, the human resource has to be given due emphasis and importance. It is the known fact that the performance and behavior of individuals are generally better in a stress free work environment. The stress, as a result of occupation and work environment will bring down the efficiency of the employees and performance of the industrial units. MSME sector in India supports the large scale industries as they are strategically located in the near vicinity of large scale industries. The support of this sector is very critical for India's GDP, Export Trade and for the smooth functioning of large scale industries. As the Micro, Small and Medium Enterprises Sector predominantly adopts the labour intensive technology for carrying out its operations, the contribution of the human resource is vital and significant in this sector and hence, the survival and smooth conduct of activities of this sector is vested with the human resources of the sector. Job stress is the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury. In today's context, stress has been recognized as a costly business expense that affects both employees' health and company's profits.

## **2. STATEMENT OF THE PROBLEM**

The Physical Environment is the primary environment in which the employees are performing their work. It includes all those physical items which facilitate the employees to work such as the equipments, tools, safe floors, well maintained walls, congestion free workplace, sitting facility, resting facility, proper lighting, drinking water facility, hazard free environment, no spillage and wastage of materials and oil in the workplace, proper fencing around the moving machines, provision of safety equipments such as gloves, goggles and helmets. The adequate availability of Physical Environment enables the employees for better performance of their tasks and therefore, if there is any shortage in its availability, it affects the work performance and may lead to stress in the employees. Thus, poor physical conditions like overcrowding and lack of privacy, excessive noise, excessive heat or cold, pressure of toxic chemicals and radiation, air pollution, safety hazards, poor lighting, etc., produce stress on people. Hence, an attempt has been made by the researcher to analyse the perception of the respondents on Physical Environment Stress experienced by them and the results are presented in the following pages.

### **3. OBJECTIVES AND HYPHOTHESES**

#### **3.1 OBJECTIVES**

- To measure the extent of variation in the level of Physical Environment Stress experienced by the Employees of MSME Sector in Coimbatore District.

#### **3.2 HYPOTHESES**

In tune with the objective of the study, the researcher has formulated hypotheses that various Demographic variables relating to the respondents (such as sex, age, marital status, employment status of spouse, literacy level, size of the family, type of the family, average monthly family income, average monthly family expenses, average monthly family savings and distance between house and workplace and the various occupational factors) do not significantly influence the level of Physical Environment Stress experienced by the respondents.

### **4. RESEARCH METHODOLOGY**

#### **4.1 RESEARCH**

Research can be defined as “a scientific and systematic search for pertinent information on a specific topic”. According to Advanced Learners Dictionary of current English research is “a careful investigation or inquiry especially through search for new facts in any branch of knowledge”. The researcher used empirical research study based on statement of the problem

#### **4.2 RESEARCH DESIGN**

Research design stands for advanced planning of methods to be adopted for collecting the relevant data and the techniques to be used in their analysis keeping in view the objective of the research. The present study is based on survey and fact-findings enquiries with the employees of MSME sector in Coimbatore district. Here the descriptive method of research has been followed.

#### **4.3 SAMPLING UNIT**

The sampling unit for present study is Employees from various MSME Units in Coimbatore District.

#### **4.4 SAMPLING TECHNIQUE**

Simple random sampling method by using Tippet’s Random Numbers has been used.

#### **4.5 SAMPLE SIZE**

The total sample size selected for the present study is 1000 Employees from different MSME Units of Coimbatore District.

#### **4.6 DATA COLLECTION**

Primary Data are that, which are collected afresh and for the first time and happens to be original in character. Here the primary data were collected using a structured Interview Schedule from employees working at various levels of MSME sector industries of Coimbatore District. The respondents were contacted personally.

Secondary data were collected from the Books, Journals, magazines, Office of MSMEs and its websites.

### **5. FRAMEWORK OF ANALYSIS**

The general plan of analysis of the present study ranged from simple descriptive statistics, bi-variate test, testing of hypotheses, to multivariate techniques.

The mean and range scores of each group of the respondents on the various components were calculated. In order to find out the significance of the differences between the mean scores, Analysis of Variance [ANOVA] has been employed. Contingency Tables have been formed and Chi-Square tests have been applied for testing the association between the variables. The co-efficient of correlation between the dependent variables of the study and the selected independent variables have been put into Multiple Regression Analysis to explain the extent of variance of the dependent variables influenced by the independent variables combined. Besides these, Karl Pearson's correlation, Path analysis and Factor analysis have also been made to measure the extent of variation in the perception of the respondents on the Physical Environment Stress experienced by them at MSMEs in Coimbatore District.

### **6. DATA ANALYSIS AND INTERPRETATION**

#### **6.1.1 EXTENT OF VARIATION IN THE LEVEL OF PHYSICAL ENVIRONMENT STRESS EXPERIENCED BY THE RESPONDENTS**

The sample respondents were divided into three groups in accordance with their perception on the Physical Environment Stress experienced by them. The respondents with the scores upto 53.86 were categorized as the respondents who perceived that they experienced high level of Physical Environment Stress; the respondents with the scores between 53.87 and 78.06 were categorized as the respondents who perceived that the

Physical Environment Stress experienced by them is moderate, and the respondents with the scores above 78.06 were categorized as the respondents who perceived that they experienced less amount of Physical Environment Stress in their organisation. The distribution of the sample respondents in accordance with the level of Physical Environment Stress experienced by them is given in Table -1.

Table-1 reveals that the mean Physical Environment Stress score of the respondents is 65.96. Their scores ranged between 28.57 and 97.14. Out of one thousand sample respondents, four hundred and thirty five (43.50%) have their scores above the mean score and the remaining five hundred and sixty five respondents (56.50%) have respondents their scores below the mean scores. The level of Physical Environment stress experienced by one hundred and eleven respondents (11.10%) is high. Their mean Physical Environment Stress score is 42.30 and their scores ranged between 28.57 and 53.33. Sixty respondents (54.05%) have their Physical Environment Stress scores above the mean score and the remaining fifty one respondents (45.95%) have their scores below the mean score.

Among the one thousand sample respondents, seven hundred and fifteen respondents (71.50%) experienced moderate of level of Physical Environment Stress in their organisations. Their mean Physical Environment Stress score is 65.19 and their scores ranged between 55.24 and 77.62. Three hundred and fourteen respondents (43.92%) have their Physical Environment Stress scores above the mean score and the remaining four hundred and one respondents (56.08%) have their scores below the mean score.

The level of Physical Environment Stress experienced by one hundred and seventy four (17.40%) respondents is less. Their mean Physical Environment Stress score is 84.18 and their scores ranged between 78.10 and 97.14. Sixty eight respondents (39.08%) have their Physical Environment Stress scores above the mean score and the remaining one hundred and six respondents (60.92%) have their scores below the mean score.

**Table-1: Extent of Variation in the Perception of the Respondents on Physical Environment Stress.**

<b>Level of Physical Environment Stress</b>	<b>Number of Respondents</b>	<b>Mean score</b>	<b>Range</b>
High	111	42.30	28.57 to 53.33
Moderate	715	65.19	55.24 to 77.62

Less	174	84.18	78.10 to 97.14
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>

Source: Survey Data

### 6.1.2. SEX GROUP OF THE RESPONDENTS AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS.

The mean Physical Environment Stress score of the 'Male' respondents is 65.87 and their scores ranged between 28.57 and 97.14. Three hundred and thirty one respondents (42.38%) have their scores above the mean score and the remaining four hundred and fifty respondents (57.62%) have their scores below the mean score.

The mean Physical Environment Stress score of the 'Female' respondents is 66.27 and their scores ranged between 38.57 and 91.43. One hundred respondents (45.66%) have their scores above the mean score and the remaining one hundred and nineteen respondents (54.34%) have their scores below the mean score.

**Table-2: Sex Group of the Respondents and Perception on Physical Environment Stress**

Sex Group	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Male	781	65.87	28.57 to 97.14	85 (10.88%)	570 (72.99%)	126 (16.13%)
Female	219	66.27	38.57 to 91.43	26 (11.87%)	145 (66.21%)	48 (21.92%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111 (11.10%)</b>	<b>715 (71.50%)</b>	<b>174 (17.40%)</b>

Source: Survey Data.

Table-2 reveals that the mean Physical Environment Stress score of the ‘Female’ respondents is higher than that of the ‘Male’ respondents, and hence, it can be inferred that the ‘Female’ respondents experienced less amount of Physical Environment Stress in their organizations. Table-2 further indicates that the percentage of respondents (10.88%) who experienced high level of Physical Environment Stress is the lowest among the ‘Male’ respondents, and the percentage of respondents (21.92%) who experienced less amount of Physical Environment Stress is the highest among the ‘Female’ respondents. As the result is inconsistent, it can be inferred that the relationship between the sex group of the respondents and their perception on the Physical Environment Stress experienced by them in their organizations is not significant.

### 6.1.3. AGE GROUP OF THE RESPONDENTS AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS

The mean Physical Environment Stress score of the ‘Young age’ group respondents is 67.97 and their scores ranged between 39.05 and 93.81. Ninety eight respondents (48.04%) have their Physical Environment Stress scores above the mean score, and the remaining one hundred six respondents (51.96%) have their scores below the mean score.

The mean Physical Environment Stress score of the ‘Middle age’ group respondents is 65.26 and their scores ranged between 28.57 and 97.14. Two hundred and forty one respondents (41.48%) have their Physical Environment Stress scores above the mean score, and the remaining three hundred and forty respondents (58.52%) have their scores below the mean score.

The mean Physical Environment Stress score of the ‘Old age group’ respondents is 65.93 and their scores ranged between 28.57 and 97.14. Ninety nine respondents (46.05%) have their Physical Environment Stress scores above the mean score, and the remaining one hundred and sixteen respondents (53.95%) have their scores below the mean score.

**Table-3: Age Group of the Respondents and Perception on Physical Environment Stress**

Age Group	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Young	204	<b>67.97</b>	39.05 to 93.81	<b>19</b>	138	<b>47</b>

				<b>(9.31%)</b>	(67.65%)	<b>(23.04%)</b>
Middle	581	65.26	28.57 to 97.14	63 (10.84%)	425 (73.15%)	93 (16.01%)
Old	215	65.93	28.57 to 97.14	29 (13.49%)	152 (70.70%)	34 (15.81%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> <b>(11.10%)</b>	<b>715</b> <b>(71.50%)</b>	<b>174</b> <b>(17.40%)</b>

Source: Survey Data.

Table-3 reveals that the mean Physical Environment Stress score of the ‘Young age’ group respondents is higher than that of ‘Middle’ and ‘Old age’ group respondents, and hence, it can be inferred that the ‘Young age’ group respondents experienced less amount Physical Environment Stress in their organizations. Table-3 further indicates that the percentage of respondents (9.31%) who experienced high level of Physical Environment Stress is the lowest, and the percentage of respondents (23.04%) who experienced less amount of Physical Environment Stress is the highest among the ‘Young age’ group respondents. Hence, it can be inferred that the relationship between the age group of the respondents and their perception on the Physical Environment Stress experienced by them in their organisations is significant.

#### **6.1.4. LITERACY LEVEL OF THE RESPONDENTS AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the respondents who fall under ‘Illiterate’ category is 64.28 and their scores ranged between 45.24 and 83.81. Twenty three respondents (42.59%) have their scores above the mean score and the remaining thirty one respondents (57.41%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who had their education upto ‘School level’ is 65.64 and their scores ranged between 28.57 and 95.71. Three hundred and sixteen respondents (45.93%) have their scores above the mean score, and the remaining three hundred and seventy two respondents (54.07%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who are with ‘ITI Qualification’ is 65.06 and their scores ranged between 29.05 and 93.81. Thirty seven respondents (54.41%) have their scores above the mean score, and the remaining thirty one respondents (45.59%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who are with ‘Collegiate Education’ is 67.95 and their scores ranged between 38.57 and 97.14. Seventy two respondents (42.35%) have their scores above the mean score, and the remaining ninety eight respondents (57.65%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who fall under ‘Others’ category is 67.45 and their scores ranged between 34.29 and 86.67. Eleven respondents (55%) have their scores above the mean score and the remaining nine respondents (45%) have their scores below the mean score.

**Table-4: Literacy Level of the Respondents and Perception on Physical Environment**

**Stress**

Literacy Level	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Illiterate	54	64.28	45.24 to 83.81	<b>1</b> <b>(1.85%)</b>	50 (92.59%)	3 (5.56%)
School Level	688	65.64	28.57 to 95.71	78 (11.34%)	498 (72.38%)	112 (16.28%)
ITI	68	65.06	29.05 to 93.81	15 (22.06%)	39 (57.35%)	14 (20.59%)
College	170	<b>67.95</b>	38.57 to 97.14	16 (9.41%)	111 (65.30%)	<b>43</b> <b>(25.29%)</b>
Others	20	67.45	34.29 to 86.67	1 (5%)	17 (85%)	2 (10%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> <b>(11.10%)</b>	<b>715</b> <b>(71.50%)</b>	<b>174</b> <b>(17.40%)</b>

Source: Survey Data.

Table-4 reveals that the mean Physical Environment Stress score of the respondents who had their education upto ‘College Level’ is higher than that of the respondents who are with other levels of literacy, and hence, it can be inferred that the respondents with Collegiate education experienced less amount of Physical Environment Stress in their organizations.

Table-4 further indicates that the percentage of respondents (1.85%) who experienced high level of Physical Environment Stress is the lowest among the Illiterate category respondents, and the percentage of respondents (25.29%) who experienced less amount of Physical Environment Stress is the highest among the respondents who are with ‘Collegiate Education’. As the result is inconsistent, it can be inferred that the relationship between Literacy level of the respondents and their perception on the Physical Environment Stress experienced by them in their organisations is not significant.

#### **6.1.5. NATURE OF JOB AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the ‘Unskilled’ category respondents is 65.04 and their scores ranged between 39.05 and 97.14. Twenty seven respondents (36.99%) have their scores above the mean score and the remaining forty six respondents (63.01%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who fall under ‘Semi-skilled’ category is 66.02 and their scores ranged between 28.57 and 95.71. Two hundred and eighty four respondents (49.65%) have their scores above the mean score and the remaining two hundred and eighty eight respondents (50.35%) have their scores below the mean score.

The mean Physical Environment Stress score of the ‘Skilled’ category respondents is 66.03 and their scores ranged between 38.57 and 97.14. One hundred and twenty eight respondents (36.06%) have their scores above the mean score, and the remaining two hundred and twenty seven respondents (63.94%) have their scores below the mean score.

Table-5 reveals that the mean Physical Environment Stress score of the ‘Skilled’ category respondents is higher than that of the ‘Unskilled’ and ‘Semi-skilled’ category respondents, and hence, it can be inferred that the ‘Skilled’ category respondents experienced less amount Physical Environment Stress in their organizations. Table-5 further indicates that the percentage of respondents (4.51%) who experienced high level of Physical Environment Stress is the lowest among the ‘Skilled’ category respondents, and the percentage of respondents (20.28%) who experienced less amount of Physical Environment Stress is the highest among the ‘Semi-skilled’ category respondents. As the result is inconsistent, it can be inferred that the relationship between nature of job of the respondents and their perception on the Physical Environment Stress experienced by them in their organisations is not significant.

**Table-5: Nature of Job and Perception on Physical Environment Stress**

Nature of Job	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Unskilled	73	65.04	39.05 to 97.14	9 (12.33%)	54 (73.97%)	10 (13.70%)
Semi-skilled	572	66.02	28.57 to 95.71	86 (15.03%)	370 (64.69%)	<b>116</b> <b>(20.28%)</b>
Skilled	355	<b>66.03</b>	38.57 to 97.14	<b>16</b> <b>(4.51%)</b>	291 (81.97%)	48 (13.52%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> <b>(11.10%)</b>	<b>715</b> <b>(71.50%)</b>	<b>174</b> <b>(17.40%)</b>

Source: Survey Data.

#### **6.1.6. TOTAL WORK EXPERIENCE OF THE RESPONDENTS AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the respondents who have put in 'Less' years of total work experience is 66.44 and their scores ranged between 34.29 and 97.14. Two hundred and twenty four respondents (38.55%) have their scores above the mean score and the remaining three hundred and fifty seven respondents (61.45%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who have put in 'Moderate' years of total work experience is 64.77 and their scores ranged between 28.57 and 90.95. One hundred and sixteen respondents (49.36%) have their scores above the mean score, and the remaining one hundred and nineteen respondents (50.64%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who have put in 'More' years of total work experience is 65.95 and their scores ranged between 28.57 and 92.38. Ninety respondents (48.91%) have their scores above the mean score, and the remaining ninety four respondents (51.09%) have their scores below the mean score.

**Table-6: Total Work Experience of the Respondents and Perception on Physical Environment Stress**

Total Experience	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Less	581	<b>66.44</b>	34.29 to 97.14	<b>41</b> (7.06%)	442 (76.07%)	<sup>113</sup> 98 (16.87%)
Moderate	235	64.77	28.57 to 90.95	41 (17.45%)	153 (65.10%)	41 (17.45%)
More	184	65.95	28.57 to 92.38	29 (15.76%)	120 (65.22%)	<b>35</b> (19.02%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> (11.10%)	<b>715</b> (71.50%)	<b>174</b> (17.40%)

*Source: Survey Data.*

Table-6 reveals that the mean Physical Environment Stress score of the respondents who have put in ‘Less’ years of total work experience is higher than that of the remaining categories of respondents, and hence, it can be inferred that the respondents who have put in ‘Less’ years of total work experience experienced less amount Physical Environment Stress in their organizations. Table-6 further indicates that the percentage of respondents (7.06%) who experienced high level of Physical Environment Stress is the lowest among the respondents who have put in ‘Less’ years of total work experience and the percentage of respondents (19.02%) who experienced less amount of Physical Environment Stress is the highest among the respondents who have put in ‘More’ period of total work experience. As the result is inconsistent, it can be inferred that the relationship between total work experience that has been put in by the respondents and their perception on the Physical Environment Stress experienced by them in their organisations is not significant.

#### **6.1.7. EXPERIENCE OF THE RESPONDENTS IN THEIR PRESENT ORGANISATIONS AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the respondents who have ‘Less’ years of experience in the present organisation is 66.36 and their scores ranged between 29.05 and 97.14. Three hundred and twenty six respondents (40.95%) have their scores above the

mean score, and the remaining four hundred and seventy respondents (59.05%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who have ‘Moderate’ years of experience in the present organisation is 63.63 and their scores ranged between 28.57 and 90.48. Seventy nine respondents (50.97%) have their scores above the mean score, and the remaining seventy six respondents (49.03%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who have ‘More’ years of experience in the present organisation is 66.74 and their scores ranged between 39.52 and 82.86. Twenty nine respondents (59.18%) have their scores above the mean score, and the remaining twenty respondents (40.82%) have their scores below the mean score.

**Table-7: Experience of the Respondents in their Present Organisations and Perception on Physical Environment Stress**

Present Experience	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Less	796	66.36	29.05 to 97.14	<b>74</b> (9.30%)	582 (73.11%)	140 (17.59%)
Moderate	155	63.63	28.57 to 90.48	32 (20.65%)	95 (61.29%)	<b>28</b> (18.06%)
More	49	<b>66.74</b>	39.52 to 82.86	5 (10.20%)	38 (77.56%)	6 (12.24%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> (11.10%)	<b>715</b> (71.50%)	<b>174</b> (17.40%)

*Source: Survey Data.*

Table-7 reveals that the mean Physical Environment Stress score of the respondents who have ‘More’ years of experience in their present organisations is higher than that of the remaining categories of respondents, and hence, it can be inferred that the respondents who have ‘More’ years of experience in their present organisations experienced less amount Physical Environment Stress in their organizations. Table-7 further indicates that the percentage of respondents (9.30%) who experienced high level of Physical Environment Stress is the lowest among the respondents who have ‘Less’ years of experience in their present organizations, and the percentage of respondents (18.06%) who experienced less amount of Physical Environment Stress is the highest among the respondents who have

‘Moderate’ years of experience in their present organisations. As the result is inconsistent, it can be inferred that the relationship between experience of the respondents in their present organisations and their perception on the Physical Environment Stress experienced by them in their organisations is not significant.

#### **6.1.8. SHIFT PATTERN AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the respondents who are ‘not working in shift pattern’ is 65.25 and their scores ranged between 28.57 and 97.14. Three hundred and four respondents (42.94%) have their scores above the mean score, and the remaining four hundred and four respondents (57.06%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who are ‘working in shift pattern’ is 67.66 and their scores ranged between 29.05 and 93.81. One hundred and forty six respondents (50%) have their scores above the mean score, and the remaining one hundred and forty six respondents (50%) have their scores below the mean score.

**Table-8: Shift Pattern and Perception on Physical Environment Stress**

Shift Pattern	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
No shift	708	65.25	28.57 to 97.14	<b>72</b> (10.17%)	541 (76.41%)	95 (13.42%)
Shift	292	<b>67.66</b>	29.05 to 93.81	39 (13.36%)	174 (59.59%)	<b>79</b> (27.05%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> (11.10%)	<b>715</b> (71.50%)	<b>174</b> (17.40%)

*Source: Survey Data.*

Table-8 reveals that the mean Physical Environment Stress score of the respondents who are ‘working in shift pattern’ is higher than that of the respondents who are not working in shift pattern, and hence, it can be inferred that the respondents who are ‘working in shift pattern’ experienced less amount Physical Environment Stress in their organizations. Table-8 further indicates that the percentage of respondents (10.17%) who experienced high level of Physical Environment Stress is the lowest among the respondents who are ‘not working in shift pattern’, and the percentage of respondents (27.05%) who experienced less amount of Physical Environment Stress is the highest among the respondents who are working in shift

pattern. As the result is inconsistent, it can be inferred that the relationship between shift pattern in the work of the respondents and their perception on the Physical Environment Stress experienced by them in their organisations is not significant.

### **6.1.9. LEVEL OF WORKLOAD AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the respondents who opined that their work load is ‘Less’ is 69.26 and their scores ranged between 40.48 and 95.71. Forty nine respondents (51.58%) have their scores above the mean score, and the remaining forty six respondents (48.42%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents opined that their workload is ‘Moderate’ is 66.79 and their scores ranged between 29.52 and 97.14. Two hundred and seventy three respondents (41.62%) have their scores above the mean score, and the remaining three hundred and eighty three respondents (58.38%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who opined that their workload is ‘High’ is 62.49 and their scores ranged between 28.57 and 92.38. One hundred and thirty five respondents (54.22%) have their scores above the mean score, and the remaining one hundred and fourteen respondents (45.78%) have their scores below the mean score.

**Table-9: Level of Workload and Perception on Physical Environment Stress**

Level of Workload	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Less	95	<b>69.26</b>	40.48 to 95.71	10 (10.53%)	58 (61.05%)	<b>27</b> <b>(28.42%)</b>
Moderate	656	66.79	29.52 to 97.14	<b>62</b> <b>(9.45%)</b>	461 (70.28%)	133 (20.27%)
High	249	62.49	28.57 to 92.38	39 (15.66%)	196 (78.72%)	14 (5.62%)
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> <b>(11.10%)</b>	<b>715</b> <b>(71.50%)</b>	<b>174</b> <b>(17.40%)</b>

*Source: Survey Data.*

Table-9 reveals that the mean Physical Environment Stress score of the respondents who opined that their workload is ‘Less’ is higher than that of the remaining categories of respondents, and hence, it can be inferred that the respondents who opined that their

workload is 'Less' experienced less amount Physical Environment Stress in their organizations. Table-9 further indicates that the percentage of respondents (9.45%) who experienced high level of Physical Environment Stress is the lowest among the respondents who opined that their workload is 'Moderate', and the percentage of respondents (28.42%) who experienced less amount of Physical Environment Stress is the highest among the respondents who opined that their workload is 'Less'. As the result is inconsistent, it can be inferred that the relationship between the opinion of the respondents on their level of workload in their organizations and their perception on the Physical Environment Stress experienced by them in their organisations is not significant.

#### **6.1.10. LEVEL OF JOB SATISFACTION AND PERCEPTION ON PHYSICAL ENVIRONMENT STRESS**

The mean Physical Environment Stress score of the respondents who derived 'Low' level of job satisfaction is 60.90 and their scores ranged between 28.57 and 92.38. Ninety one respondents (64.08%) have their scores above the mean score, and the remaining fifty one respondents (35.92%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who derived 'Moderate' level of their job satisfaction is 65.37 and their scores ranged between 28.57 and 93.81. Three hundred and fifteen respondents (43.63%) have their scores above the mean score, and the remaining four hundred and seven respondents (56.37%) have their scores below the mean score.

The mean Physical Environment Stress score of the respondents who derived 'High' level of job satisfaction is 74.36 and their scores ranged between 34.29 and 97.14. Seventy three respondents (53.68%) have their scores above the mean score, and the remaining sixty three respondents (46.32%) have their scores below the mean score.

Table-10 reveals that the mean Physical Environment Stress score of the respondents who derived 'Higher' level of job satisfaction is higher than that of the respondents who derived 'Less' and 'Moderate' levels of job satisfaction, and hence, it can be inferred that the respondents who derived 'Higher' level of job satisfaction experienced less amount Physical Environment Stress in their organizations. Table-10 further indicates that the percentage of respondents (8.82%) who experienced high level of Physical Environment Stress is the lowest, and the percentage of respondents (48.53%) who experienced less amount of Physical Environment Stress is the highest among the respondents who derived 'High' level of job satisfaction. Hence, it can be inferred that the relationship between the level of job

satisfaction derived by the respondents and their perception on the Physical Environment Stress experienced by them in their organisations is significant.

**Table-10: Level of Job Satisfaction and Perception on Physical Environment Stress**

Job Satisfaction Level	No. of Respondents	Mean Score	Range	Level of Physical Environment Stress		
				High	Moderate	Less
Low	142	60.90	28.57 to 92.38	26 (18.31%)	109 (76.76%)	7 (4.93%)
Moderate	722	65.37	28.57 to 93.81	73 (10.11%)	548 (75.90%)	101 (13.99%)
High	136	<b>74.36</b>	34.29 to 97.14	<b>12</b> <b>(8.82%)</b>	58 (42.65%)	<b>66</b> <b>(48.53%)</b>
<b>Total</b>	<b>1000</b>	<b>65.96</b>	<b>28.57 to 97.14</b>	<b>111</b> <b>(11.10%)</b>	<b>715</b> <b>(71.50%)</b>	<b>174</b> <b>(17.40%)</b>

*Source: Survey Data.*

## **6.2. SIGNIFICANCE IN THE DIFFERENCE IN THE MEAN SCORES WITHIN AND BETWEEN THE GROUPS – ANALYSIS OF VARIANCE [ANOVA].**

The result of Analysis of Variance indicates that there exists a significant difference in the mean physical environment stress perception scores among:

- a) The young, middle and old age group respondents.
- b) The respondents with different level of experience in the present organisation.
- c) The respondents who are working and not working in Shift pattern.
- d) The respondents who vary in their perception on Workload and
- e) The respondents who vary in their perception on Job satisfaction.

## **6.3. FACTORS INFLUENCING THE PERCEPTION OF RESPONDENTS ON THE PHYSICAL ENVIRONMENT STRESS EXPERIENCED BY THEM – CHI-SQUARE TEST**

The results of Chi-square test indicate that the factors such as Literacy Level, Size of the family, Type of the family, Average Monthly Family Savings, Area of Residence, Ownership of House, Distance Between Workplace and Home, Nature of Job, Total Work Experience, Experience in Present Organisation, Shift Pattern, Permanency of Job, Remuneration Period, Opinion on Monetary Benefit, Opinion on Non-Monetary Benefit,

Mode of Conveyance, Level of Workload and Job Satisfaction derived by the respondents significantly influence the perception of the respondents on Physical Environment Stress experienced by them.

#### **6.4. PHYSICAL ENVIRONMENT STRESS PERCEPTION INDEX FOR THE SAMPLE RESPONDENTS - MULTIPLE REGRESSION ANALYSIS**

The Multiple Regression Analysis reveals that the variables level of job satisfaction derived by the respondents, level of stress experienced by the respondents and opinion of the respondents on the shift pattern of work in their organization have significant influence on the perception of the respondents on the Physical Environment Stress experienced by them.

#### **6.5. PERCEPTION OF THE RESPONDENTS ON THE PHYSICAL ENVIRONMENT STRESS - KARL PEARSON'S CORRELATION**

The result of Karl Pearson's Correlation reveals that the variables viz., Shift Pattern, Permanency of Job, Monetary Benefits and Level of Job satisfaction have positive and highly significant relationship at 1% level of significance with the perception of the respondents on the Physical Environment Stress experienced by them in their workplace. The variables Distance between workplace and home, Level of Stress and Level of Workload have negative and highly significant relationship at 1% level of significance with the perception of the respondents on the Physical Environment Stress experienced by them in their workplace. The variable literacy level of the respondents has the positive and significant relationship at 5% level of significance with the perception of the respondents on the Physical Environment Stress experienced by them in their workplace.

#### **6.6. COMBINED EFFECTS OF THE INDEPENDENT VARIABLES ON THE PERCEPTION OF THE RESPONDENTS ON THE PHYSICAL ENVIRONMENT STRESS EXPERENCED BY THEM – PATH ANALYSIS**

The results of Path Analysis revealed that the variables Level of Job satisfaction derived by the respondents and Level of stress experienced by the respondents have the highest positive and negative direct effects respectively to the dependent variable namely perception of the respondents on the Physical Environment Stress experienced by them.

#### **6.7. FACTOR ANALYSIS FOR THE PERCEPTION OF THE RESPONDENTS ON THE PHYSICAL ENVIRONMENT STRESS EXPERIENCED BY THEM IN MSMEs OF COIMBATORE DISTRICT.**

The Factor Analysis revealed that the factors such as Equipment Availability Factor, Job Satisfaction Factor, Provision of Additional Facilities Factor, Ambience Factor, Workplace Safety Factor, Safety Assurance Factor and Occupational Health Factor

considerably contribute to the perception of the respondents on the Physical Environment Stress experienced by them.

## 7. FINDINGS

- The research reveals that the mean Physical Environment Stress score of the respondents is 65.96.
- 'Female' respondents experienced less amount of Physical Environment Stress in their organizations.
- 'Young age' group respondents experienced less amount of Physical Environment Stress.
- The respondents with College level education experienced less amount of Physical Environment Stress.
- The 'Skilled' category respondents experienced less amount of Physical Environment Stress.
- The respondents who have put in 'Less' years of total work experience experienced less amount of Physical Environment Stress.
- The respondents who have 'More' years of experience in their present organisations experienced less amount of Physical Environment Stress.
- The respondents who are 'working in shift pattern' experienced less amount of Physical Environment Stress.
- The respondents who opined that their workload is 'Less' experienced less amount of Physical Environment Stress.
- The respondents who derived 'Higher' level of job satisfaction experienced less amount of Physical Environment Stress.
- The variables age group and level of Job satisfaction of the respondents had significant relationship with the perception of the respondents on the Physical Environment Stress experienced by them in their organizations.
- The variables sex group, Literacy level, nature of job, total work experience, experience in the present organization, shift pattern and opinion of the respondents on workload had no significant relationship with the perception of the respondents on the Physical Environment Stress experienced by them in their organizations.

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