Organizational Ergonomics: Human Engineering Leading To Employee Well-Being

K. Gomathi, Rajini.G

Abstract: Human engineering is the application of mental health and physiological principles to the structure of products, procedures, and schemes. The aim of human engineering is to decrease human mistakes, improve productivity level, and increase safety and well-being with a particular focus on the association between the human and the thing of intrigue. Practicing good ergonomics leads to increased productivity, improved health and safety of workers, higher job satisfaction and retention of employees. Sampling technique is probability, multistage sampling, sampling units garment companies. The multiple regression analysis was used to study the relationship between the factors influencing ergonomics, resilience, subjective and objective well-being. This study was conducted in India’s Textile hub of Garment industry: Tiruppur District, Tamilnadu state. The data was collected from 453 garment industry employees through a structured questionnaire. The finding of this study organisational ergonomics, resilience, subjective well-being and objective well-being has strongly depends on physical workplace environment and machines. Task, but doesn’t have an effect of psychosocial factor. Subjective well-being strongly depends on Task, Organisational ergonomics, Resilience. Objective well-being is depends on organisational ergonomics. Proper workplace environment and good condition machinery creates better comfortable and safe workplace which leads to employee well-being. Human engineering factors (Physical workplace environment, Machines, Task, and Psychosocial Factor) facilitated by organisational ergonomics leads to a better employee well-being.

KEYWORDS: Human engineering, Organizational Ergonomics, Resilience, Objective Well-being, Subjective Well-being, Textile industry.

1. INTRODUCTION

Human components is the logical order worried about the comprehension of collaborations among people and other fundamentals of a organisation, and the profession that applies ethics, theory information and techniques to configuration to enhance human well-being and general framework execution. A human factor is engaged to satisfy the goals of work related well-being and safety and profitability. It is relevant in the design of such things as protected furnishings and simple to utilize interfaces to machines and tools (IEA). Organisational ergonomics takes a shot at complete improvement of the work environment directly from quality administration to cooperation. It incorporates overseeing everything in the association to make it a improved place. Previous research exhibited the term of ergonomics is made from the Greek two words “ergo” implies (work) and “nomos” implies (laws).

Actually, ergonomics truly signifies “the laws of work” (Murrell, 1971; Sluchak, 1992). (Chapanis, 1985; Sanders and McCormick, 1987) Ergonomics defined as human elements, is concern and finds information about human behaviour, restriction, capacities, and different qualities to the structure of machines, instruments, tasks, frameworks, job and working environment for safe, gainful, comfortable, and effective human use. Today, the logical control of ergonomics can be separated into three types which are physical, organisational and cognitive ergonomics. Physical ergonomics manages anthropometric and physiologic parts of job structure. In another study, cognitive ergonomics looks at human psychological procedures, for example, apperception, response and coordination data handling. (Karwowski and Rodrick (2002)). James (1987), this study found that the most significant work environment stress elements are the measure of command over a person's own capacities. Nonetheless, different factors, for example, the colleagues and supervisor; work environment condition, job conflict, work timetable may likewise prompt work environment stress. Earlier studies have predict that, nearly manufacturing job condition can prompt work environment, yet depend on workers response to it. There are not many criteria of work illness that nearly purpose worry for workers which incorporates time due dates, work over-burden, deprived relationship among superintendent, machine paced task, monotonous work, absence of control, cognitive demand, job uncertainty and physical condition. (Rafieli, 1987 and Sutton).

The poor ergonomics factors workstation condition is the fundamental supporter of the work stress issues (Makhbul and Idrus, 2009). Work Overload pressure can bring about poor impacts and ready to influence a specialist's psychological or physical well-being and even affect their work execution. In long run, it directly influences organization's performance (Boswell, 2006). Safer (2011) The studies shows that after execution of ergonomics in the organisation performer work simpler and keeps your work force healthy. The examination is stressed on employees' views on nature of employment, workplace environment and their present work postures at work. It translates that employees of Puducherry manufacturing concerns are given best workplace how employee well-being. This study was conducted in India's Textile hub of Garment industry: Tiruppur District, Tamilnadu state. The data was collected from 453 garment industry employees through a structured questionnaire. The finding of this study organisational ergonomics, resilience, subjective well-being and objective well-being has strongly depends on physical workplace environment and machines. Task, but doesn’t have an effect of psychosocial factor. Subjective well-being strongly depends on Task, Organisational ergonomics, Resilience. Objective well-being is depends on organisational ergonomics. Proper workplace environment and good condition machinery creates better comfortable and safe workplace which leads to employee well-being. Human engineering factors (Physical workplace environment, Machines, Task, and Psychosocial Factor) facilitated by organisational ergonomics leads to a better employee well-being.

KEYWORDS: Human engineering, Organizational Ergonomics, Resilience, Objective Well-being, Subjective Well-being, Textile industry.

1. INTRODUCTION

Human components is the logical order worried about the comprehension of collaborations among people and other fundamentals of a organisation, and the profession that applies ethics, theory information and techniques to configuration to enhance human well-being and general framework execution. A human factor is engaged to satisfy the goals of work related well-being and safety and profitability. It is relevant in the design of such things as protected furnishings and simple to utilize interfaces to machines and tools (IEA). Organisational ergonomics takes a shot at complete improvement of the work environment directly from quality administration to cooperation. It incorporates overseeing everything in the association to make it a improved place. Previous research exhibited the term of ergonomics is made from the Greek two words “ergo” implies (work) and “nomos” implies (laws).

Actually, ergonomics truly signifies "the laws of work" (Murrell, 1971; Sluchak, 1992). (Chapanis, 1985; Sanders and McCormick, 1987) Ergonomics defined as human elements, is concern and finds information about human behaviour, restriction, capacities, and different qualities to the structure of machines, instruments, tasks, frameworks, job and working environment for safe, gainful, comfortable, and effective human use. Today, the logical control of ergonomics can be separated into three types which are physical, organisational and cognitive ergonomics. Physical ergonomics manages anthropometric and physiologic parts of job structure. In another study, cognitive ergonomics looks at human psychological procedures, for example, apperception, response and coordination data handling. (Karwowski and Rodrick (2002)). James (1987), this study found that the most significant work environment stress elements are the measure of command over a person's own capacities. Nonetheless, different factors, for example, the colleagues and supervisor; work environment condition, job conflict, work timetable may likewise prompt work environment stress. Earlier studies have predict that, nearly manufacturing job condition can prompt work environment, yet depend on workers response to it. There are not many criteria of work illness that nearly purpose worry for workers which incorporates time due dates, work over-burden, deprived relationship among superintendent, machine paced task, monotonous work, absence of control, cognitive demand, job uncertainty and physical condition. (Rafieli, 1987 and Sutton).

The poor ergonomics factors workstation condition is the fundamental supporter of the work stress issues (Makhbul and Idrus, 2009). Work Overload pressure can bring about poor impacts and ready to influence a specialist's psychological or physical well-being and even affect their work execution. In long run, it directly influences organization's performance (Boswell, 2006). Safer (2011) The studies shows that after execution of ergonomics in the organisation performer work simpler and keeps your work force healthy. The examination is stressed on employees' views on nature of employment, workplace environment and their present work postures at work. It translates that employees of Puducherry manufacturing concerns are given best workplace how employee well-being. This study was conducted in India's Textile hub of Garment industry: Tiruppur District, Tamilnadu state. The data was collected from 453 garment industry employees through a structured questionnaire. The finding of this study organisational ergonomics, resilience, subjective well-being and objective well-being has strongly depends on physical workplace environment and machines. Task, but doesn’t have an effect of psychosocial factor. Subjective well-being strongly depends on Task, Organisational ergonomics, Resilience. Objective well-being is depends on organisational ergonomics. Proper workplace environment and good condition machinery creates better comfortable and safe workplace which leads to employee well-being. Human engineering factors (Physical workplace environment, Machines, Task, and Psychosocial Factor) facilitated by organisational ergonomics leads to a better employee well-being.

KEYWORDS: Human engineering, Organizational Ergonomics, Resilience, Objective Well-being, Subjective Well-being, Textile industry.
Organizational Ergonomics: Human Engineering Leading To Employee Well-Being

The author used multiple regression model again (Rajini G., 2011) to find the combination of the effects of the independent variables (Physical workplace environment $X_1$, Machines $X_2$, Task $X_3$, Psychosocial environment $X_4$) against the dependent variable (Subjective Well-being, objective Well-being).

$$Y_1 = C_{1a} + b_{1a}X_1 + b_{1b}X_2 + b_{1c}X_3 + b_{1d}X_4$$

The regression was tested by using T-test and the coefficient was used to compare as well as determine the percentage of variation that exist in the dependent variable. F - value was used to know the significance of the F distribution.

H1: Organisational ergonomics does not depend on Physical workplace environment, Machines, Task, Psychosocial factor.

The first hypothesis, the dependent variable is Organisational ergonomics on the independent variables are Physical workplace environment($X_1$), Machines($X_2$), Task($X_3$), Psychosocial factor($X_4$).

$$Y_1 = C_1 + A_{1a}X_1 + A_{1b}X_2 + A_{1c}X_3 + A_{1d}X_4$$

Where $c_1$ is constant, $A_{1a}$, $A_{1b}$, $A_{1c}$, $A_{1d}$ are regression coefficients. Thus the regression coefficients were executed.

### Table 1: Model summary - Physical workplace environment, Machines, Task, Psychosocial factor and Organisational ergonomics

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---|----------|-------------------|---------------------------|
| 1     | .556 | .309    | .304             | .33737                     |

a. Predictors: (Constant), PSF, PWE, Machines, TASK

From the above Table provides inference that the ability of prediction for model was articulated by R value 0.556 and R² value 0.309 which shows 30.9% of variance exist in the dependent variable is from the independent variables. F-value is 70.671 showing that there exists a relationship between PWE, Machines, Task, PSF with Organisational Ergonomics.

### Table 2: ANOVA - Physical workplace environment, Machines, Task, Psychosocial factor and Organisational ergonomics

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|----------------|----|-------------|---|-----|
| 1 Regression | 32.175 | 4 | 8.044 | 70.671 | .000 |
| Residual | 72.049 | 633 | 0.114 |   |     |
| Total | 104.224 | 637 |     |     |     |

a. Dependent Variable: Organizational Ergonomics

b. Predictors: (Constant), PSF, PWE, Machines, TASK

Source: Primary Data

### Table 3: Coefficients - Physical workplace environment, Machines, Task, Psychosocial factor and Organisational ergonomics

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|---------------------------|---|-----|
|        | B  | Std. Error | Beta |     |     |
| (Constant) | 2.177 | .214 | 10.188 | .000 |
| PWE | .296 | .072 | .235 | 4.137 | .000 |
| Machines | .255 | .044 | .261 | 5.731 | .000 |
| TASK | .065 | .036 | .098 | 1.786 | .075 |
| PSF | -.213 | .026 | -.287 | 8.294 | .000 |

a. Dependent Variable: Organizational Ergonomics
Source: Primary Data From the above table it is inferred that the beta value is 0.296 for variable 1 (Physical workplace environment) and 0.255 for variable 2 (Machine) and 0.065 for variable 3 (Task) and -0.213 for variable 4 (Psychosocial factors) There is a significant relationship between Physical workplace environment and Organizational Ergonomics (P value = .000). There is a significant relationship between Machines and Organizational Ergonomics (P value = .000). There is a significant relationship between Psychosocial factors and Organizational Ergonomics (P value = .000). Which is <0.05. There is no significant relationship found Task and Organizational Ergonomics since the P value is >0.05 which is .075. Thereby the final regression equation is derived by the incorporating the coefficients as follows

\[
Y_2 = C_2 + A_{21}X_1 + A_{22}X_2 + A_{23}X_3 + A_{24}X_4
\]

Where \( C_2 \) is constant, \( A_{21}, A_{22}, A_{23}, A_{24} \) are regression coefficients. Thus the regression coefficients were executed.

Table-4 Model summary- Physical workplace environment, Machines, Task, Psychosocial factor and Resilience

| Model | R | R\(^2\) | Adjusted R\(^2\) | Std. Error of the Estimate |
|-------|---|---------|------------------|----------------------|
| 1     | .594* | .353   | .349            | .32619             |

a. Predictors: (Constant), PSF, PWE, Machines, TASK

Source: Primary Data

From the above Table provides inference that the ability of prediction for model was articulated by R value 0.594 and R\(^2\) value 0.353 which shows 35.3% of variance exist in the dependent variable is from the independent variables. F-value is 86.396 showing that there exists a relationship between PWE, Machines, Task, PSF with Resilience

Table-5 ANOVA- Physical workplace environment, Machines, Task, Psychosocial factor and Resilience

| Model  | Sum of Squares | df | Mean Square | F       | Sig. |
|--------|----------------|----|-------------|---------|------|
| 1      | Regression     | 36.77 | 4   | 9.192     | 86.396 | .000* |
|        | Residual       | 67.35 | 633 | 0.106    |        |      |
|        | Total          | 104.12 | 637 |          |        |      |

a. Dependent Variable: Resilience

b. Predictors: (Constant), PSF, PWE, Machines, TASK

Source: Primary Data

H\(_3\): Resilience does not depend on physical workplace environment, Machines, Task, Psychosocial factor.

The Second hypothesis, the dependent variable is Resilience on the independent variables are Physical workplace environment(\(X_1\)), Machines(\(X_2\)), Task(\(X_3\)), Psychosocial factor(\(X_4\)).

\[
Y_3 = C_3 + A_{31}X_1 + A_{32}X_2 + A_{33}X_3 + A_{34}X_4
\]

Where \( C_3 \) is constant, \( A_{31}, A_{32}, A_{33}, A_{34} \) are regression coefficients. Thus the regression coefficients were executed.

Table-6 Coefficients- Physical workplace environment, Machines, Task, Psychosocial factor and Resilience

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|---------------------------|---|------|
| B     | Std. Error | Beta |         |      |
| (Constant ) | 2.458 | .207 | 11.899 | .000 |
| PWE   | -.304 | .069 | .241   | 4.394 | .000 |
| Machines | -.133 | .043 | -.136  | -3.084 | .002 |
| TASK  | -.315 | .035 | .478   | 9.007 | .000 |
| PSF   | -.025 | .025 | -.033  | -.995 | .320 |

a. Dependent Variable: Resilience

Source: Primary Data

From the above table it is inferred that the beta value is 0.315 for variable 1 (Task) 0.304 for variable 2 (Physical workplace environment) and -0.133 for variable 3 (Machine) and -0.025 for variable 4 (Psychosocial factors) There is a significant relationship between Physical workplace environment and Resilience (P value = .000). There is a significant relationship between Machines and Resilience (P value = .002). There is a significant relationship between Machines and Resilience (P value = .000). Which is <0.05. There is no significant relationship found PSF and Resilience since the P value is >0.05 Which is .320. Thereby the final regression equation is derived by the incorporating the coefficients as follows

\[
Y_3 = .2458 + .315(Task) + .304(Physical \text{ workplace environment}) - .133 \text{ (Machine)} - .025 \text{ (PSF)}
\]

H\(_4\): Objective well-being does not depend on Physical workplace environment, Machines, Task, Psychosocial factor, Organizational ergonomics, Resilience.

The third hypothesis, the dependent variable is Subjective Well-being on the independent variables are Physical workplace environment(\(X_1\)), Machines(\(X_2\)), Task(\(X_3\)), Psychosocial factor(\(X_4\)) Organisational Ergonomics(\(X_5\)), Organisational Ergonomics(\(X_6\)), Resilience(\(X_7\)).

\[
Y_4 = C_4 + A_{41}X_1 + A_{42}X_2 + A_{43}X_3 + A_{44}X_4 + A_{45}X_5 + A_{46}X_6 + A_{47}X_7
\]

Where \( C_4 \) is constant, \( A_{41}, A_{42}, A_{43}, A_{44}, A_{45}, A_{46}, A_{47} \) are regression coefficients. Thus the regression coefficients were executed.

Table-7 Model summary- Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and Subjective well-being

| Model | R | R\(^2\) | Adjusted R\(^2\) | Std. Error of the Estimate |
|-------|---|---------|------------------|----------------------|
| 1     | .501* | .591   | .582             | 3.83329             |

a. Predictors: (Constant), RE, PSF, Machines, OE, PWE, TASK

Source: Primary Data

Table-8 Model summary- Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and Subjective well-being

| Model | R | R\(^2\) | Adjusted R\(^2\) | Std. Error of the Estimate |
|-------|---|---------|------------------|----------------------|
| 1     | .501* | .591   | .582             | 3.83329             |

a. Predictors: (Constant), RE, PSF, Machines, OE, PWE, TASK
Organizational Ergonomics: Human Engineering Leading To Employee Well-Being

Source: Primary Data From the above Table provides inference that the ability of prediction for model was articulated by R value 0.501 and R² value 0.591 which shows 59.1% of variance exist in the dependent variable is from the independent variables. F- value is 10.502 showing that there exists a relationship between PWE, Machines, Task, PSF, Organisational Ergonomics, Resilience with Objective Well-Being.

Table-8 ANOVA - Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and Subjective well-being

| Model          | Sum of Squares | df | Mean Square | F      | Sig.  |
|----------------|----------------|----|-------------|--------|-------|
| Regression     | 925.87         | 6  | 154.3       | 10.50  | .000  |
| Residual       | 9271.9         | 6  | 14.69       | 2.8    |       |
| Total          | 10197          | 3  | 3.38        |        |       |

a. Dependent Variable: Objective Well-Being
b. Predictors: (Constant), RE, PSF, Machines, OE, PWE, TASK

Table-9 Coefficients - Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and Subjective well-being

| Model   | Unstandardized Coefficients | Standardized Coefficients | t     | Sig. |
|---------|-----------------------------|---------------------------|-------|------|
| B       |                             |                           |       |      |
| (Constant) | 35.1                      | 2.80                      | 12.5  | .000 |
| PWE     | .786                        | .83                       | .223  | .001 |
| Machines| -1.04                       | .52                       | -.108 | .046 |
| TASK    | .405                        | .43                       | -.108 |       |
| PSF     | -.692                       | .30                       | -.094 | .025 |
| OE      | .230                        | .45                       | .225  | .000 |
| RE      | -.618                       | .47                       | -.062 | .192 |

The Fourth hypothesis, the dependent variable is Objective Well-being on the independent variables are Physical workplace environment(X₁), Machines(X₂), Task(X₃), Psychosocial factor(X₄), Organisational Ergonomics(X₅), Resilience(X₆).

\[ Y₇ = c_4 + a_{4a}X₁ + a_{4b}X₂ + a_{4c}X₃ + a_{4d}X₄ + a_{4e}X₅ + a_{4f}X₆ \]

Where c₄ is constant, a₄a, a₄b, a₄c, a₄d, a₄e, a₄f are regression coefficients. Thus the regression coefficients were executed.

Table-10 Model summary - Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and objective well-being

| Model | R    | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|------|----------|-------------------|----------------------------|
|       | .351 | .463     | .454              | 9.32853                    |

a. Predictors: (Constant), RE, PSF, Machines, OE, PWE, TASK

Source: Primary Data From the above Table provides inference that the ability of prediction for model was articulated by R value 0.351 and R² value 0.463 which shows 46.3% of variance exist in the dependent variable is from the independent variables. F- value is 7.056 showing that there exists a relationship between PWE, Machines, Task, PSF, Organisational Ergonomics, Resilience with Subjective Well-Being.
Table-11 ANOVA - Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and objective well-being

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|-------|----------------|----|-------------|---|-----|
| 1 Regressi on | 3684.054 | 6 | 614.00 | 7.05 | .00 |
| Residual | 549.498 | 631 | 87.021 | | |
| Total | 5859.552 | 637 | | | |

a. Dependent Variable: Subjective Well-Being
b. Predictors: (Constant), RE, PSF, Machines, OE, PWE, TASK

Source: Primary Data

Table-12 Co-efficients - Physical workplace environment, Machines, Task, Psychosocial factor, Organisational ergonomics, Resilience and objective well-being

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|----------------------------|---|-----|
| (Constat t) | 62.27 | 6.82 | 9.125 | .00 |
| PWE | .694 | 2.02 | .290 | 4.284 | .00 |
| Machine s | -.359 | 1.27 | -.015 | -2.81 | .04 |
| TASK | .608 | 1.06 | .039 | .573 | .16 |
| PSF | .126 | .748 | .007 | .168 | .06 |
| OE | .353 | 1.11 | -.057 | -2.125 | .00 |
| RE | -.208 | 1.15 | -.135 | -.2785 | .00 |

a. Dependent Variable: Subjective Well-Being

Subjective Well-Being = 62.275 + .694 (Physical workplace environment) - .359 (Machines) + .608 (Task) + .126 (Psychosocial factors) -.353 (Organisational ergonomics) - .208 (Resilience).

Psychosocial Factor but doesn’t have an effect on Task. Most of the employees strongly agree that Fire precaution is operational and accessibility is high. It shows that the companies are following fire safety measures. Resilience significantly depends upon Physical workplace environment, Machines, Task, but doesn’t have an effect of psychosocial factor. Objective Well-being strongly depends upon Physical workplace environment, Machines, Organizational Ergonomics but not depend on Task, psychosocial factor Resilience. Subjective Well-being strongly depends upon Physical workplace environment, Machines, Task, psychosocial factor, Organizational Ergonomics and Resilience.

Table-13 Overview of Multiple Regression Analysis

| Dependent variabl e | Independent Variable | PW E | M A | T A | PS F | O E | R E | SW B | OW B |
|---------------------|----------------------|------|-----|-----|------|-----|-----|------|------|
| OE | PWE MA TA PSF | S | S | N | S | - | - | - |
| RE | PWE MA TA PSF | S | S | S | N | S | - | - |
| SWB | PWE MA TA PSF OE RE | S | S | S | S | S | S | - |
| OWB | PWE MA TA PSF OE RE | S | S | N | S | N | S | S | - |

Source: Primary Data

PWE - Physical Workplace Environment, MA - Machines, TA - Task, OE - Organizational Ergonomics, RE - Resilience, SWB- Subjective Well-being, OWB- Objective Well-being.

IV. CONCLUSION

Today individuals turned out to be increasingly thoughtful about the comfort of wearing and furthermore the toughness of the garment. In a day, one needs various wears at various occasions. The garment industry is gaining lots of importance at Tiruppur where most of them are export oriented.
The employees are working for long hours in same position, doing the same task at their workplace which involves lots of machines where the alignment between man and machine plays a predominant role and has termed as human engineering. The physical workplace environment and machines plays a major role in this study as these variables are leading to Organizational Ergonomics, resilience, subjective well-being and objective well-being. Workplace environment also plays a vital role in motivating employees to perform their assigned work (Chandrasekar (2011)). The workplace environments as per the present study are temperature, noise, vibration, lighting, prevention of chemical hazards, and prevention of fire hazards. Though all these factors are probed in by factories act and other legal compliance, this study has opened up new a dialogue which is part of employee welfare measures. Way back in Hawthorne experiments this sort of research has been carried out but the human engineering concept has proved employee well-being, which is beyond employee welfare and legal compliance. Indeed this human engineering approach facilitated employees for retention in the same workplace.

Modernization has created different tools and techniques at such workplace for expanding the profitability and productivity. Good condition, periodical maintenance, appropriate tools, precise work space, protective tools, appropriate specification, safety precautions user friendly machines creates better comfort and safety which leads to employee well-being. Task factor is an image creation of garment industry workers which does not impact on Organizational Ergonomics and Well-being. This study result shows that subjective well-being strongly depends on physical workplace environment, Machines, Task, Psychosocial factors, Organisational ergonomics and Resilience (human engineering factors). Subjective well-being is a person’s cognitive and affective evaluations of his or her life, whereas objective well-being is defined in terms of quality of life pointers such as material resources (e.g. income, food, housing) and social attributes (education, health, political voice, social networks and connections).

The advantages of making and keeping up a positive workplace environment enhances Greater productivity, happier people, employee stability, business advantage, higher returns, better security, and better well-being (Shrestha, 2007). Hence we conclude that, Human Engineering factors (Physical workplace environment, Machines, Task, and Psychosocial Factor) facilitated by organisational ergonomics leads to a better employee well-being. Limitations of this study are Temperature level, Noise level, and Cotton dust concentrations at workplace Environment were not measured with equipment’s. Gender based Employee Well-being can be measured which is future scope of further study. This finding again challenges Maslow hierarchy theory.

ACKNOWLEDGMENT

Source of funding: Research Scholar Fellowship awarded by Vels Institute of Science, Technology and Advanced Studies (VISTAS ) for this research.

Ethical clearance: Proposal presented before VISTAS Institutional Ethics Committee (IEC) and clearance obtained Vide letter No. VISTAS-SPS/IEC/VII/2018/07. IEC Registration No:ECR/288/Indt/TN/2018 and File no: ECR/1644/VELS/Indt/TN, Issued by Government of India, Ministry of Health & Family Welfare.

REFERENCES

1. Boswell, G.H., Kahana, E., and Dilworth-Anderson, P, “Spirituality and healthy lifestyle behaviors: Stress counter-balancing effects on the well-being of older adults.” Journal of Religion & Health, 2006, pp587-602.
2. Chapani, A, “Some reflections on progress. Proceedings of the human factors” 29th annual meeting. Santa Monica. USA,1-8, 1985.
3. Chandrasekar, A, “A workplace environment and its impact on organisational performance in public sector organisations.” International journal of enterprise computing and business systems, vol.1 (1), 2011.
4. C.R. Kothari, “Research Methodology, 2 ed,New Delhi, India, 2004.
5. Eklund, J, “Relationships between ergonomics and quality in assembly work.” Applied Ergonomics, 26 (1), 1995, pp 15–20.
6. Hair, J.F, “Multivariate data analysis.” 6th edition. Pearson Prentice Hall, New york, 2006.
7. Hair JF, “ Research methods for business.” 2007.
8. International Ergonomics Association, What is Ergonomics. Retrieved 16 September 2013.
9. James, K, and Shaw, “A study of stress, its causes and factors for its mitigation.” Air Command and stuff college air university, Maxwell Air Force Base, 1987.
10. Karwowski, W., Kantola, J., Rodrick, D. And Salvendy, G, “Macro ergonomics aspects of manufacturing. In Macro ergonomics: An Introduction to Work System Design, H.W. Hendrick and B.M. Kleiner (Eds.), 2002, pp23 – 248 (Mahwah, NJ: Erlbaum).
11. Shrestha and Shruti, “Improving employee performance.” Journal of banking and finance, Vol.E090 – D, No.10, 2007, pp. 1621-1629.
12. Makkbul, Z.M. and D. Idrus, “Work stress issues in Malaysia.” Malaysia Labour Revier, 3(2): 2009, pp13-26. View at Google Scholar
13. M. Hassall, T. Xiao, P. Sanderson, A. Neal, “Human Factors and Ergonomics.” International Encyclopaedia of the Social & Behavioural Sciences, (Second Edition), 2015,pp: 297-305.
14. Murrell, K., “Ergonomics-Man in his Working Environment.” Springer, London, 1971.
15. Rafaeli, A., & Sutton, R. I, “The expression of emotion as part of the work role.” Academy of Management Review, 1987, pp23-37.
16. Rajini,G, “A Multivariate Analysis to determine Work life Balance for Nurses.” In Nirmal Kumar,T and Arul Rajan,K (eds) Changing Perspectives of Management: Revisiting the Past, Analyzing the Present and Exploring the Future. India: His, 2011, pp 617-626.
17. Sanders, Mark, S., and Ernest, J., and McCormick, “Human Factors in Engineering and Design.” New York, McGraw-Hill, 1987.
18. Shuchak, T.J, “Ergonomics: Origins, Focus and Implementation Considerations.” Journal of the American Association of Occupational Health Nurses, 40(3), 1992, pp105-11.

AUTHORS PROFILE

K. Gomathi, Ph.D Research Scholar, School of Management Studies, Vels Institute of Science and Technology & Advanced Studies, Pallavaram, Chennai, India. She has published 3 articles in Scopus and 2 articles in UGC. Presented papers in international conferences. Her area of interest is Ergonomics, Employee well-being, Organizational ergonomics.

K. Gomathi, Ph.D Research Scholar, School of Management Studies, Vels Institute of Science and Technology & Advanced Studies, Pallavaram, Chennai, India. She has published 3 articles in Scopus and 2 articles in UGC. Presented papers in international conferences. Her area of interest is Ergonomics, Employee well-being, Organizational ergonomics.

Dr.Rajini.G, Corresponding Author, Professor & Head-MBA (Integrated), School of Management Studies, Vels Institute of Science and Technology & Advanced Studies, Pallavaram, Chennai, India with academic experience of 16 years and Industrial Experience around five years. She has authored 4 Books and published 50 papers in International, National and Edited volumes of Books indexed in Scopus, Elsevier ,Springer Nature ,ICI ,Google scholar, Ebsco & by reputed publishers like Sage, Inder science ,JGI etc.