RESEARCH ARTICLE

A COMPARATIVE ANALYSIS ON THE CAUSES OF OCCUPATIONAL STRESS AMONG MEN AND WOMEN EMPLOYEES AND ITS EFFECT ON PERFORMANCE AT THE WORKPLACE INTERNATIONAL AGRICULTURAL RESEARCH INSTITUTE, HYDERABAD

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ABSTRACT

The research study reports the results of a comparative analysis on causes of occupational stress among the men and women employees and its effect on the employee performance at the workplace International Agricultural Research Institute, Hyderabad. A survey of 200 employees consisting 120 men and 80 women from the institute carried out to assess the nine independent stress causing factors Work overload, Boss-Peer, Role Ambiguity, Role Overload, Co-Workers, Lack of control, Career, Individual, Physiological Factors and its effect on employees' Performance a dependent factor. The descriptive analysis, correlation techniques and parametric statistics like t-test carried out to arrive at the conclusions. To measure the reliability of the scale used for this study, and internal consistencies of the survey questionnaire, the reliability statistics Cronbach's alpha (C-Alpha) and Spearman-Brown split-half reliability were estimated. The overall C-Alpha value is 0.84 whereas the Spearman-Brown split half static is 0.92. The C-Alpha values ranged from 0.68 to 0.82 for men and 0.64 to 0.80 for women, for all the 9 independent and one dependent factor. The results of the study indicate that the medium level occupational stress exist at the workplace in general, effecting the performance moderately and women employees experience more stress than men. Health-wise, some employees developed chronic neck and back pain, an effect of long sitting hours at work. The significance of the study is that the authors believe it is the first study in India carried out in agriculture sector.

INTRODUCTION

Hans Selye an Austrian born Endocrinologist first introduced the concept of stress in to the life sciences in 1936. Stress is man's adaptive reaction to an outward situation which would lead to physical, psychological and behavioral changes. An individual can experience stress from the four basic sources, the environment, social stressors, physiological and thoughts (Matthews 2001). The modernization, urbanization, globalization and liberalization which resulted in stiff competition lead to the increased stress. Occupational stress is inescapable for the employees as work place is becoming a volatile stress factory for most employees – the as the Age of

anxiety. However, not all the stresses are destructive in nature. Reasonable amount of stress can actually trigger one's passion for work, taps the latent abilities and even ignite inspirations. Occupational stress is a dynamic condition at work place where an individual is confronted with an opportunity, demand, or resource related to what the individual desired and for which the outcome is perceived to be both uncertain and important (Schuler 1980). The General Adaptation Syndrome has been widely held has a comprehensive model to explain the stress phenomenon (Hans Selye, 1956). The occupational stress is caused due to job where the assignments and work environment of the employees result in psychological reactions in turn distress and illness (Sumathi & Nandagopal, 2014). The researchers agree that occupational stress is a serious problem in many organizations (Cooper & Cartwright, 1994; Varca 1999; Ornelas & Kleiner, 2003). Occupational stress is defined as the perception of a discrepancy between environmental

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demands (stressors) and individual capacities to fill these demands (Topper, 2007; Vermut &Steensma, 2005; Ornels & Kleiner, 2003). Occupational stress often shows high dissatisfaction among the employees, job mobility, burnout, poor work performance and less effective interpersonal relations at work (Manshor, Rodrigue & Chong, 2003). Johnson (2001) similarly argued that interventions like identifying or determining the signs of stress, identifying the possible causes for the signs and developing possible proposed solutions for each signsarerequired.The psychological stressors influence the health through emotional, cognitive, behavioural and psychological factors (Levi, 1998). The role ambiguity, role overload, role conflict, lack of resources and strenuous working conditions have positive relations and are the common causes of the stress (Chand & Sethi, 1997). The type of work assigned to an employee is also one of the stress factor and those engaged in work related to them able to cope the stress better than those who are assigned unrelated work (Tread Gold, 1999). Cooper and Marshall (1976) are of the view that by occupational stress is meant environmental factors or stressors such as work overload, role conflict, role ambiguity, and poor working conditions associated with a particular job.

Several theories were proposed to stress and its effects. Osipow and Spokane (1987) described six work roles that they felt were stressful regardless of an individual's actual vocational choice. Role Overload (RO) —measures the extent to which job demands exceed resources (personal and workplace) and the extent to which the individual is able to accomplish workloads (Osipow, 1998). Role overload can result in an employee experiencing anger and frustration toward persons believed responsible for the overload in work (Marini, Todd & Slate, 1995). Cercarelli and Ryan (1996) indicated that, fatigue involves a diminished capacity for work and possibly decrements in attention, perceptions, decision making, and skill performance, perhaps must simply put, fatigue may refer to feeling tired, sleepy, or exhausted (NASA, 1996). Vishal Smartha etl al. (2013) carried out regression analysis in their comparative study in public and private sector banks and concluded that there were no differences on effects of stress on employee among private and public banks. Jayanthy Nair and Joseph (2013) highlighted the prevalence of various job stresses in policing and their consequences in terms of job relate and affective strains using correlation analysis. Yahaya *et al*. (2010) reported that the occupational stress do not have director effect on job satisfaction, absenteeism, and turnout from the place of work. A comparative analysis reported the differences in overall job stress and level of permanent employees in private and public sector banks (Khurram Zafar and Faisal Jamil, 2012). A study on the effect of stress on performance of employees in Commercial bank of Ceylon concluded that stress is having an impact on bank employee's performance at the same the influence of organizational related stress is higher than the job and individual related stress (Karunanithy and Ponnampalam 2013). A study on causes of stress among the employees and its effect on the employees performance at the workplace in an international agricultural research institute at Hyderabad Metro reported moderate impact on employees performance of the institute (Prasad *et al*. 2015). A comparative study of job stress of among Government and Private Employees reported

that the private employees have more job stress than the Government employees (Rajubhai Rana, 2014). A comparative study on the cause of stress among the employees in IT sector with reference to International Agricultural Research Institute, Hyderabad reported that the job related stress in general and the stress factor job security in particular effects the employee performance in IT sector (Prasad *et al*., 2016). A multiple regression analysis approach to identify the occupational stress among the Executive Officers in the Governmental and Non-governmental Organizations of Nepal illustrating 12 stressors brought out many finer aspects and the realistic picture of the stresses felt by the employees (Kayastha, Krishna Murthy & Adhikary, 2013).

The significant differences in the factors causing stress like workload, time pressure, work culture and threat of unemployment were reported using a comparative study between HDFC and SBI bank employees (Poonam Negi, 2013). Dwayne Devonish (2014) examined workplace bullying as a potential moderator in the relationship between job demands and physical, mental and behavioural strain and the results revealed that workplace bullying significantly exacerbated the effects of job demands on physical exhaustion, depression, and uncertified absenteeism. Dodi Irawanto, Noermiyati and Diana Primasari (2015) concluded that stressors and occupational stress significantly influence the performance of the female employees either simultaneously or partially and the study concluded that demographic factors have a role in moderating the relationship of stressors and occupational stress with the performance of female employees.

Objectives and Hypotheses

Background and cause for the study: A wide range of studies on occupational stress and its related effects were carried out in Information Technology, Banking and Industrial sectors. As stress is common for all the employees irrespective of the area of work, we have pursued this study at the International Agricultural Research Institute, Hyderabad where employees spend considerable time on their job at least > 12 hours for work and commuting.

Research question: What are the main sources of occupational stress, and if there are any differences in stress causing factors among the men and women at the workplace in International Agricultural Research Institute, and how do they influence performance among men and women?

Objective: The objective of the study is to present the main sources of stress at the workplace and to observe any differences in stress factors among the men and women their influence on employees' performance in both the sectors.

- To identify the causes of stress and its effect on performance at their workplace among the men and women
- To assess how work related stress factors effecting the performance at the workplace and suggest work life balance coping strategies.

Based on the identified problem, research question and the objectives the following hypotheses were formed:

H₁: There are no significant differences among Men and Women in job stress levels due to nine independent occupational stress related factors

H₂: Women employees experience equal level occupational stress to Men at workplace due to Occupational stress

H₃: The occupational stress causing factors for both Men and Women are similar

RESEARCH METHODOLOGY

Conceptual Framework: The proposed framework was adopted based on the past research by Selye (1993), Ferris, Bergin and Wayne (1988) and Karunanithy and Ponnampalam (2013) and Prasad *et al*. (2015) and Prasad *et al*. (2016). The independent factor stress, in this research is further sub-divided into 9 stress causing factors– Work Overload, Boss/Peer, Role Ambiguity, Role Overload, Co-Workers, Lack of Control, Career, Individual factor, Physiological, and the dependent factor Performance. The following frame work is formulated on the objectives to be achieved shows the linkages of the factors in this study (Figure 1).

Demography of Sample		
Gender	Frequency	Percent
Men	120	60
Women	80	40
Total	200	100
Source: Primary data		

Sample Description	
Age Group	No of respondents
20-29	51
30-34	59
35-39	42
>40	48
Source: Primary data	

Research Instrument: The research instrument used for the survey is a structured undisguised questionnaire—a main source for the primary data collection. Secondary data was collected from various published books, websites and records pertaining to the topic. The questionnaire was divided into 2 sections – in the Section I, background information/personal details of the respondent were collected.
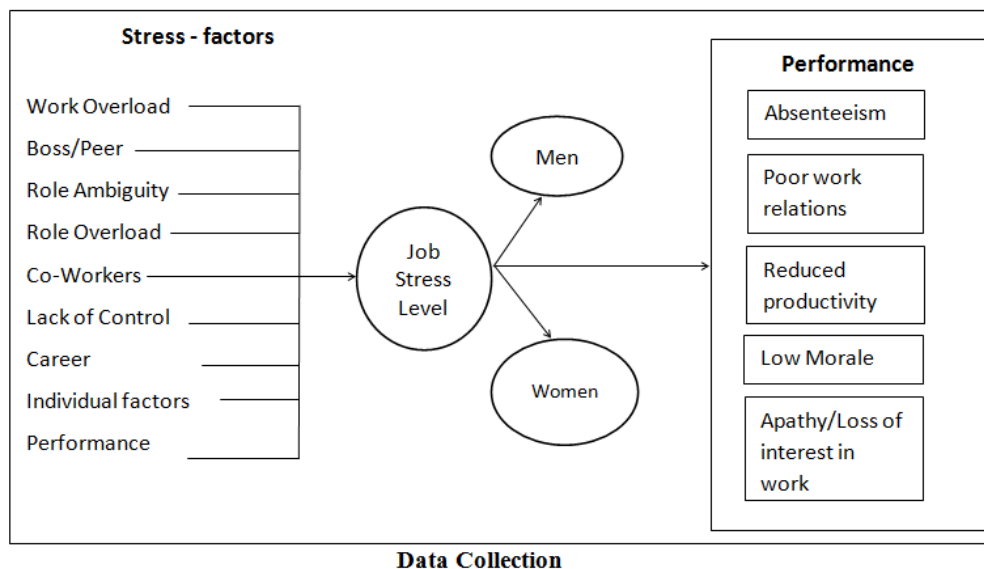

Figure 1. Conceptual framework

Data Collection

Sample Size: The sample is a subset of the entire population, and inferential statistics is to generalize from the sample to the population. A sample size of 210 was selected and the data from 200 respondents was used for this study. The sample size was determined using Yamane's (1967) simplified formula corrected to proportion to determine the sample size for the study.

$$n = \frac{N}{1+N(e)^2}$$

Where N: Total population ; n: Sample size; e: precision

$$n = \frac{500}{1+550(0.05)^2} = 210$$

The Section II of questionnaire was used to find out the stress levels of the employees and impact of the stress on performance. This part contains 45 questions related to nine stress causing independent factors as described earlier and the dependent factor Performance. The respondents were asked to choose the most appropriate 'top of- the-mind' response for each statement. To measure each factor, a range of 3-6 questions were given but all these questions were mixed systematically (Table 1). The researcher has identified 45 factors that cause stress in employees at the institute. The factor analysis was used to reduce the factors to 10 factors with the help of SAS 9.4 ver (Table 1).

Data Analysis: In our empirical investigation we have applied statistical techniques to analyse the data for drawing inductive inferences from our research data. To ensure the data integrity the authors have carried out necessary and appropriate analysis using relevant methods on our findings. The descriptive

statistics are used to summarise the data and to investigate the survey questionnaire, formulating the hypotheses the inferential statistics were employed. To measure the central tendency such as means, variance and standard deviation we used the dispersion methods.

Table 1. Stress causing factors (109 and performance factors used in the study

Factor	Description	Factors
1	Work overload	5 Factors such as excessive work pressure, demanding work, time management, etc.
2	Boss/Peer	4 Factors Relation with boss and harassment
3	Role Ambiguity	5Factors Unclear explanation of role, confusion
4	Role Overload	5 Factors Too many expectations, role conflict with dual roles, fewer resources
5	Co-workers	3 Factors Relationship with co-workers,
6	Lack of Control	4 Factors Control over job, independency
7	Career	5Factors Career development, progress, insecurity
8	Individual	3 Factors, Income, financial constraints, ability to relax
9	Physiological	5 Factors Nervousness, pains, bloating stomach
10	Performance	6 Factors Experiencing stress, effect on output, absenteeism, poor work relations, etc.

Reliability methods: To measure the internal consistency reliability of our research instrument, the survey questionnaire and to maintain similar and consistent results for different items with the same research instrument, we used the reliability methods Cronbach's alpha and Spearman Brown split-half reliability Statistics. In Spearman-Brown split-half reliability the items are randomly divided the items into two groups. After administering the questionnaire to a group of people the total score each divided group was calculated to estimate the correlation between the total scores (William Trochim, 2006). The Statistical Analytical System (SAS) was used to measure the central tendency, measures of variability, reliability statistics, correlations, parametric tests and to predict the dependent factor training program effectiveness based on independent factors multiple regression analysis carried out (SAS Institute, 2008).

Reliability test of the Questionnaire: The Likert-type scale with items 1-5 was used (where 1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree and 5=Strongly agree) in this study. The reliability statistic Cronbach's alpha coefficient value (C-alpha) was calculated to test the internal consistency of the instrument, by determining how all items in the instrument related to the total instrument (Gay, Mills, & Airasian, 2006). This instrument was tested on a pilot group of 40 employees each among both men and women. They were asked to fill out the 45-questions, and requested to select the appropriate answer on 5-point Likert Scale. After analysing their responses from the pilot study with SAS program, the C-alpha statistic was found to be 0.70 and 0.80 respectively for men and women with over all C-alpha 0.80, suggesting a strong internal consistency. Three months later, the same instrument was used with 200 employees, 120 men and 80 women to collect the responses. Five questions were dropped out from a set of 50 questions because of unsatisfactory C-alpha coefficient values. The C-alpha values for the nine independent and one dependent factor ranged from 0.68 to

0.82 for men and from 0.64 to 0.84 for women, whereas the overall C-alpha values are, 0.84 and 0.80 for respectively. The increase in overall C-alpha values is an effect of dropping the five questions with low C-alpha values. A second reliability measure called Spearman Brown Split-Half Reliability Coefficient and Spearman Brown Prophecy were computed to assure the overall reliability of the scale items. The obtained overall Spearman Brown Split-Hall Reliability was 0.89 and Spearman-Brown Prophecy was 0.92 suggesting strong reliability of the instrument. In the Table 2we presented the computed C-Alpha Static, for factors in the study (William Trochim, 2006).

Table 2. Cronbach's alpha values for factors used in this study

Sl. No.	Factor	Cronbach's alpha	
		Men	Women
	Overall	0.84	0.80
1	Work overload	0.82	0.78
2	Boss/Peer	0.70	0.72
3	Role Ambiguity	0.68	0.76
4	Role Overload	0.64	0.80
5	Co-workers	0.76	0.64
6	Lack of Control	0.76	0.80
7	Career	0.72	0.74
8	Individual	0.68	0.76
9	Physiological	072	0.74
10	Performance	0.76	0.70

Cronbach's alpha: Overall: 0.84(Men); Women (0.80)
Split-Half (odd-even) Correlation: Overall: 0.89
Spearman Brown Prophecy: Overall 0.92

The Mean, Standard Deviation and Standard Error in mean responders on factor scale for all the nine stress causing independent factors and dependent factor Performance were estimated and presented in Table 5. The overall mean and standard deviation was estimated from the responses. The overall means was 3.02 and standard deviation was 0.6. Based on this rating score for Low, Medium and High stress determined (Tables 3-4).

Table 3. Determination of the level of occupational stress Mean and Standard deviation (Overall)

Mean	Standard Deviation
X = 3.02	σ =0.6

For any distribution which is nearly symmetric, the expected range is to be 6 times of standard deviation (σ) and better approximation makes it a normal distribution. For our research data the observed range is in near normal distribution and is nearly equal to the 6 times of standard distribution (Andre Francis 2008, Sumathi and Nandagopal, 2014). In our study the sources of occupational stress has 45 questions where in 6 questions are reverse keyed and range values for these questions are between 1 and 5, hence, the minimum range 45 (1*45) and the maximum range value is 225(5*45) the range is the difference between minimum and maximum values – 180 for 45 questions. After adjusting the values of reverse keyed questioned of our study the overall range is 3.5 which is near to the 6 time standard deviation (0.6). From the above Mean, the standard deviation is added and the maximum ceiling for the higher stress is set. The difference between mean and standard deviations calculated to find out the minimum ceiling

for low level of occupational stress. The level between minimum and maximum is set as medium occupational stress level.

Table 4. Rating of the Score for occupational stress

Total rating range of the score	Level of influence
$(X + \sigma) = 3.02 + 0.6 = 3.62 \, (> 3.62)$	High Level
$(X - \sigma) = 3.02 - 0.6 = 2.42 \, (< 2.42)$	Low level
2.42 to 3.62	Medium Level

RESULTS

To assess the independent stress factors effect on the dependent factor Performance based on 9 factors – the Work Overload, Boss/Peer, Role Ambiguity, Role Overload, Co-Workers, Lack of control, Career, Individual factor and Physiological factors, and the 10th factor Performance, the primary data gathered through questionnaire was analyzed. The stress was determined by the independent factors and the dependent factor performance was measured by absenteeism, poor-work relations, reduced productivity, low morale and apathy/loss of interest in work. The calculated Mean, Standard Deviation and Standard Error Values for men and women, for the primary data collected from the respondents (n=120, men and n=80, women) are presented in the Table 5. From the results of Table 5, it was observed that the objective to find out the source and level of stress is fulfilled and the results also indicate that the stress exists among the employees of the both the stressors and effects performance at medium level. The estimate overall SE of 0.07 and 0.08 respectively for men and women are relatively small, indicating that the means are relatively close to the true mean of the overall population. The overall mean value of stress and mean values for all the 9 factors indicates a medium level stress and these values and falls under the range 2.42 to 3.62 effecting the employees performance moderately (Mean for Men=2.14; for women 2.01) and women both the sectors. The Role overload scored higher score for both men and women (Table 5).

Correlation Studies for Men: The Work overload issue was significantly positively correlated with Boss/Peer, Role Ambiguity, Role Overload and Co-workers(r=0.31, 0.31, 0.60, 0.26, p< 0.01). The role overload and role Ambiguity positively correlated (r-0.60, 0.36, p < 0.01), Lack of Control in the job and career positively correlated and relationship is very weak (r= 0.13, 0.50; p<0.05). The stress factors Work Overload, Boss, Role Ambiguity, Role overload, Co-workers and individual factors negatively correlated with the Performance. Overall the correlations are moderate and with the available data we cannot conclude that the differences in means are statistically significant (Table 6).

Women: The work overload issue was positively correlated with role overload, individual an physiological factors (Table 7). (r = 0.30, 0.26, 0.31, p<0.01). The Role Ambiguity was positively correlated with Co-workers, Individual factors and Physiological factors (r= 0.37, 0.30 and 0.31, p < 0.01), The Role overload is positively correlated with Physiological factors and Individual factors (r=0.33, 0.48, p <01.01) whereas Individual Factors are positively correlated with Physiological

factors (r=0.44, p < 01.01). Performance is negatively correlated with all the factors except Career.

Table 5. Mean, Standard Deviation and Standard Error in mean responders on factor scale

Dimensions	Mean	SD	SE	Level of stress as per the rate of scoring
Work Overload				
Men	3.29	0.66	0.09	Medium
Women	3.16	0.64	0.10	Medium
Boss/Peer				
Men	2.99	0.68	0.09	Medium
Women	3.06	0.39	0.12	Medium
Role Ambiguity				
Men	3.08	0.50	0.07	Medium
Women	2.94	0.46	0.07	Medium
Role Overload				
Men	3.47	0.62	0.08	Medium
Women	3.38	0.79	0.12	Medium
Co-workers				
Men	2.85	0.52	0.08	Medium
Women	2.91	0.48	0.08	Medium
Lack of control				
Men	3.25	0.59	0.07	Medium
Women	3.09	0.72	0.08	Medium
Career				
Men	3.18	0.54	0.11	Medium
Women	3.19	0.51	0.09	Medium
Individual				
Men	2.90	0.69	0.02	Medium
Women	2.68	0.71	0.11	Medium
Physiological				
Men	3.11	0.75	0.09	Medium
Women	2.92	0.73	0.08	Medium
Performance				
Men	2.14	0.35	0.05	Medium
Women	2.01	0.48	0.08	Medium
Overall Stress				
Men	3.02	0.62	0.07	Medium
Women	3.02	0.60	0.08	Medium
Source: Primary data				

But the effect of stress factors on performance is moderate. As the correlations are moderate one cannot conclude that the differences in means are statistically significant as correlation ship does indicate the nature of relationship among the factors. According to Alvin C Burns and Ronald F Bush (2005) the relationship among the factors from men and women are moderate to weak (Tables 6 &7).

Multiple regression analysis: We carried out the multiple regression analysis to predict the value of a dependent factor outcome, Performance based on the value of 9 independent factors, and to measure the cause and effect relationship between independent and dependent factors (Table 8). The regression analysis is performed separately for men and women. All the 9 factors has 75% influence on occupational stress for men and 65% influence for women respectively and effect the performance (Table 8). In case of women with the p-value of zero to four decimal places, the model is statistically significant. The R-squared is 0.65, meaning that approximately 65% of the variability of performance is accompanied for the factors in the model and even after taking into account the number of predictor factors in the model. The coefficients of each factor indicates the amount of change one could expect in performance given a one-unit change in the value of that

factor, given that all other factors in the model are held constant. If we consider the factor Work overload, we would expect a decrease of 0.22 units in the Performance score for every one unit increase in Work overload assuming that all other factors in the model are held constant (Table 9). To compare the strength among the coefficients the standardized beta coefficient values computed (Table 9). In case of Women, the Individual factor has largest beta value (0.23) and Role overload have smallest beta value (-0.42). Considering the beta value of Individual factor one standard deviation increase in Individual factors, such increase in income, ability to relax leads to 0.23 standard deviation increase in predicted Performance, with the other factors held constant. In the same way one standard deviation increase in Role Overload leads to 0.42 standard deviation decrease in Performance with other factors in the model held constant, and so on (Table 9). In case of men The R-squared is 0.75, meaning that approximately 75% of the variability of performance is accompanied for by the factors. In case of Men Physiological Factors has highest beta value (0.17) and Role Ambiguity the lost (-0.34). If we consider the factor Role ambiguity for, this would lead to of 0.34 standard deviation decrease in the performance score for every one unit increase in Role Ambiguity factors assuming that all other factors in the model are held constant. Considering the beta value of Physiological factor, one standard deviation increase in physiological factor, such improving ergonomics, having good sleep leads to 0.17 standard deviation increase in predicted Performance, with the other factors held constant and so on. The analysis reveals for women have more stress from work overload, boss peer, role ambiguity, role overload, co-workers, and career. Whereas men are experiencing more stress from boss/peer, role ambiguity, co-workers and individual factors. We can conclude from the analysis that there are some differences in the occupational stress factors and affecting the performance among men and women.

Therefore, we reject the hypothesis

H₁: There are no significant differences among Men and Women in job stress levels due to nine independent occupational stress related factors and reject the hypothesis

H₃: The occupational stress causing factors for both Men and Women are similar.

From the values of the estimated regression coefficients the sample regression equation can be written as:

Women:
$Y=3.6-0.22_{wol}-0.20_{boss/peer}-0.09_{ramb}-0.26_{rol}-0.10_{cow}+0.16_{loc}-0.07_{career}+0.16_{ind}+0.17_{physiol}$

Men:
$Y=2.72+0.05_{wol}-0.05_{boss/peer}-0.24_{ramb}-0.12_{rol}-0.12_{cow}+0.08_{loc}+0.07_{career}-0.16_{ind}+0.10_{physiol}$

The multiple regression analysis also carried out on overall Stress and its effect on overall Performance and the results are presented in Table 10. The parameter estimates from the regression analysis indicate that Women will have reasonably more stress and standardized beta value -0.58256 indicates that an increase one standard deviation of stress factor causes 0.58 standard deviation decrease in performance when compared to Men (standardized beta value -0.13556) a decrease of 0.13 standard deviation in performance predicted. This indicates that the occupational stress effect on performance was more prone towards Women in this study.

The chi-square test for independence is applied as the data has two categorical variables from a single population to determine whether there is a significant association between the two variables Men and Women experiencing occupational stress.

Table 6. Correlations among the study factors –Men

	WOL	BOSS	RAMB	ROL	COW	LOC	CARR	IND	PHYS	PERFORM
WOL	1.00									
BOSS	0.31*	1.00								
RAMB	0.31*	0.24	1.00							
ROL	0.60**	0.13	0.36**	1.00						
COW	0.26*	0.07	0.25	0.19	1.00					
LOC	0.09	0.34**	0.31	0.12	0.06	1.00				
CARR	0.13	0.31	0.41	0.20	0.20	0.50**	1.00			
IND	0.14	0.24	-0.04	0.07	-0.12	0.01	-0.08	1.00		
PHYS	0.09	0.06	0.30	0.19	-0.06	0.17	0.11	0.35**	1.00	
PERFORM	-0.07	-0.13	-0.19	-0.01	-0.17	0.10	0.08	-0.22	0.03	1.00

WOL: Work Overload; BOSS: Boss/PeeR; RAMB: Role Ambiguity; ROL: Role Overload; COW Co-Workers LOC: Lack of Control, CARR: Career Lind: Individual factor; PHYS: Physiological (Independent factors stress causing); PERFORM: Performance (dependent)
**Correlation is significant at prob < 0.01; *significant at prob <0.05; Source: Primary data

Table 7. Correlations among the study factors –Women

	WOL	BOSS	RAMB	ROL	COW	LOC	CARR	IND	PHYS	PERFORM
WOL	1.00									
BOSS	-0.02	1.00								
RAMB	0.14	-0.09	1.00							
ROL	0.30*	-0.11	0.23	1.00						
COW	0.10	-0.16	0.37**	0.24	1.00					
LOC	0.16	0.30	0.07	0.26	0.04	1.00				
CARR	0.00	0.03	0.09	-0.03	-0.08	0.32	1.00			
IND	0.26*	0.12	0.30**	0.33**	0.34**	-0.03	0.07	1.00		
PHYS	0.31*	-0.06	0.34**	0.48**	0.25	0.02	0.02	0.44**	1.00	
PERFORM	-0.29	-0.16	-0.11	-0.29	-0.09	-0.04	0.02	-0.02	-0.05	1.00

WOL: Work Overload; BOSS: Boss/PeeR; RAMB: Role Ambiguity; ROL: Role Overload; COW Co-Workers LOC: Lack of Control, CARR: Career Lind: Individual factor; PHYS: Physiological (Independent factors stress causing); PERFORM: Performance (dependent)
**Correlation is significant at prob < 0.01; *significant at prob <0.05; Source: Primary data

Table 8. Results from Multiple Regression Analysis (Analysis of variance)

Gender	Model	R	R Square	ANOVA F value	P value
Men	1	0.866291	0.75	18.598	<.000
Women	1	0.806226	0.65	21.24	<.000
			Source: Survey data		

Table 9. Results from multiple regression analysis

Factor	Description	Unstandardized Coefficients		Standardized Coefficients	t	P
Women	(Constant)	3.62	0.66	0.00	5.45	<.0001
	Work overload	-0.22	0.10	-0.30	-2.26	0.03**
	Boss/Peer	-0.20	0.08	-0.33	-2.37	0.02**
	Role Ambiguity	-0.09	0.13	-0.10	-0.72	0.47
	Role Overload	-0.26	0.10	-0.42	-2.72	0.01**
	Co-workers	-0.10	0.12	-0.12	-0.83	0.41
	Lack of Control	0.16	0.09	0.25	1.68	0.04**
	Career	-0.07	0.11	-0.08	-0.61	0.55
	Individual	0.16	0.11	0.23	1.51	0.14
	Physiological	0.17	0.13	0.19	1.25	0.22
Men	(Constant)	2.72	0.48	0.00	5.69	<.0001
	Work overload	0.05	0.09	0.09	0.49	0.62
	Boss/Peer	-0.05	0.08	-0.10	-0.66	0.52
	Role Ambiguity	-0.24	0.11	-0.34	-2.12	0.04**
	Role Overload	0.03	0.10	0.05	0.27	0.79
	Co-workers	-0.12	0.09	-0.18	-1.27	0.21
	Lack of Control	0.08	0.09	0.13	0.86	0.40
	Career	0.10	0.10	0.16	0.97	0.34
	Individual	-0.16	0.08	-0.30	-2.05	0.04**
	Physiological	0.10	0.09	0.17	1.17	0.25

Table 10. Parameter estimates from the regression analysis: Stress vs Performance (Men and Women)

Factor	Label	Parameter Estimate	Standard Error	T value	Pr > |t|	Standardized Estimate
Men Performance	Constant	2.66755	0.45003	5.93	<.0001	0
Stress	Stress	-0.14757	0.14286	-1.03	0.3030	-0.13556
Women Performance	Constant	4.55455	0.57495	7.90	<.0001	0
Stress	Stress	-0.82273	0.18621	-4.42	<.0001	-0.58256

Table 11. Results from Chi Square Analysis

Gender	Frequencies of occupational stress scores with the demands of work						
	Frequency	Low	High	High	total	χ^2	P Value
Male	F	2047	1340	2014	4200		
	%	37.9	24.8	37.3	100		
Female	F	1544	788	1267	3600	23.874	0.000
	%	42.5	11.1	35.2	100		
Total	F	3591	2128	3281	7200		
	%	40	24	36	100		

The Chi square test was also used to test the hypothesis that Women employee at the workplace of Information Technology Sector experience more occupational stress than Men employees. The test revealed that there are significance differences between the Women and Men with respect to the level of occupational stress experience as calculated χ^2 value (23.874) is more than critical for 2 df (5.991) at 0.05% level. The P-value, the probability that a chi-square statistic having 2 degrees of freedom is more extreme than 23.874 is estimated at $P(\chi^2 >23.874) = 0.00001$. Since the P-value (0.0000) is less than the significance level (0.05), we cannot accept the null hypothesis. Therefore there is a relationship between Men and Women experiencing the levels of occupational stress at the workplace in Information Technology sector. This approach is appropriate because the sampling method was simple random

sampling, the variables under study were categorical, and the expected frequency count was at least 5 in each cell of the contingency table.

Hence we reject the H_2 Women employees experience equal level occupational stress to Men at workplace due to Occupational stress and conclude that Women employees experience more occupational stress than Men (Table 11).

DISCUSSION

The primary data gathered to structured undisguised questionnaire with 45 questions which were sub-divided into 9 factors dimensions based on their characteristic. These findings include the two extremes of the Likert scale given in the

analysis i.e. strongly disagree and strongly agree. The results indicated that there were moderate differences in the stress levels among men and women. This is line with the similar study conducted by Yahaya *et al.* (2010), Sumathi and Nandagopal (2014). Women are more prone towards occupational stress because of their dual roles in particular who are having infants. Albeit the only consideration at the work place of International Agricultural Research is there is no shift system for women. The research did not find any significant differences between the younger and older respondents, however observed the middle aged group experience more stress than the other groups. However, women participants indicated positive attitude in survey participation s than men. In summary authors researched the hypotheses that the 9 independent stress causing factors effect on the dependent factor performance and the results have supported the hypotheses. The medium level stress exists at workplace and this need to be addressed to further improve performance. However given the nature and scope of the study, there are some limitations to this study. Survey research will have some problems associated with its use as these are self-reported instruments may not be complete and reliable. However it can be reported that a strong internal consistency of the instrument was confirmed by both Cronbach's alpha and Spearman-Brown split-half reliable static at overall and at independent level using ordinal data. A major limitation to the interpretation of the results is with the instrument i.e. survey questionnaire.

The questionnaire was distributed circulating hard copy and a link also provided creating the survey questionnaire at Google form. Most the women employees submitted the hardy copy with some additional comments, however male employees prefer to use online google form. The researcher have no idea whether who has submitted the form. The author can be only make guess based on their age. However, author is very lucky to receive honest answers on the hard copy from the younger generation both men and women. The authors observed the similar answers from the hard copies received from the pilot study and final survey.

Conclusion

In the age of dynamic and competitive world, the mankind is exposed all kind of stresses as the stress is found in all the sectors. This research study was aimed at to study the impact of occupational stress on the employee performance at the workplace. All most all the factors mean value is within the range of 2.42-3.62 which shows medium level stress exist in the institute. These issues need to be addressed by the management of the institute by Ergonomics to understand the interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance. We have also observed women will have more stress because of their dual roles working and taking the responsibility of the family at home – role conflict. Proper strategies need to be developed considering working on flexible hours, interpersonal relationship and supervision and participation of the employees in the stress management may be helpful to cope the stressors.

Recommendations

Stress issue has become contemporary, being an occupational hazard and needs to be addressed without delay. There is no "one size fits all" solution to managing stress, because it is the individual who has the still have control over lifestyle, thoughts, emotions, and the way one deal with the problems. Individual management: Some of the unhealthy methods and which reduce stress temporarily are: smoking, drinking, using pills for relax, drinking too much, sleeping too much and out bursts. Give up complaining and blaming: Accept constructive criticism which will be helpful to improve your performance. Spend time with those who talk about ideas Find out the happiest and most intelligent people at your workplace and try meeting them on a regular basis. Give up the distractions: Learn to conserve your emotional energy. Walking, will increase the heart rate and relive you from the stress. Activities that are continuous and rhythmic—and require moving both your arms and your legs—are especially effective at relieving stress (Walking, running, swimming, and aerobic classes are good choices. One should try to make a conscious effort to focus on body and the physical (and sometimes emotional) sensations experienced while moving. In addition to regular exercise, there are other healthy lifestyle choices that can increase your resistance to stress. Having a healthy diet, reducing caffeine and sugar, avoid alcohol, cigarettes and drugs may relieve the stress. Organizational level: The management of the organization should also take the responsibility of employees' stress conducting stress management and coping programs at the institute level. The organization should start employee motivation programmes, yoga and meditation. If employees are given control the job they perform, there will be job satisfaction and high quality of work, as the employee himself takes the decisions and organizes his work at optimal level. Flexible working hours, work redesign, appropriate training on the new technologies, decentralized decision making, regular health checkups will definitely help to overcome the problem of the stress. The job related issues – job insecurity need to be addressed amicably. The commonsense remedies like more sleep and eating better, find more suitable job are some suggestions. As the stress is individual oriented one himself/herself should develop the coping strategies adjust his/her life-style and food habits.

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