Employee Performance A Function of Social Support And Coping: A Case Study with Reference to Agricultural Research Sector Employees Using Multinomial Logistic Regression

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Abstract: This research study is carried out to explore the relationship between social support and coping on occupational stress and performance among agricultural research sector employees in Hyderabad Metro.A survey of three hundred (300) employees consisting of 200 male and 100 female employees of various agricultural research institutes in and around Hyderabad was carried out using an undisguised selfadministered questionnaire. The questionnaire consisted the statements on employee socio-demographic, occupational stress, social support and coping factors employed. The Occupational Stress Index used to measure the occupational stress among the employees, the social support from the perceived support from coworkers, instrument and emotional support received and factors related to approach and avoidance coping strategies. The five independent stress causing factors Employee Workload, Role overload, Role Ambiguity, PeerBehaviour, Work Environment, the three social support factors Instrument support, emotional support and co-workers were studied. The reliability of the instruments used in this study, and internal consistencies of the survey questionnaire, measured using the reliability statistics Cronbach's alpha (C-Alpha). The overall C-Alpha value is 0.81 whereas and the C-Alpha values ranged from 0.72 to 0.80, for all the 10independent factors and one dependent factor performance. The relationship of demographic variables with occupational stress, social support and coping was measured using The bivariate logistic analysis was carried out on dichotomous variables to measure. The multinomial logistic regression analysis was performed to estimate the odds ratios (ORs) to explain the factors related with the occupational stress, and its association with social support and coping strategies and their effect on occupational stress. The results concluded that some employee's developedMusculoskeletal disorders such neck and back pains, corpus and tunnel syndrome. However, and there were no statistically significant differences with relation to gender on occupational stress and effect on performance. The smoking has significant influence on hypertension in particular male employees. Use of ergonomics and quitting the smoking will be helpful to overcome such problems.

Keywords:Agricultural research sector, occupational stress, performance, Cronbach's alpha, logistic regression

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I. Introduction

The occupational stress or job stress is inevitable and almost of all the working men and women has to fight with this silent killer. In Hyderabad Metro and surroundings around 10,000 researchers and allied staff work in several agricultural research institutes both government and private and international research institutes. The present survey undertaken in these institutes in and around Hyderabad. The agricultural research employees face several challenges like dwindling of water resources, climate change and unpredicted rainfall. Hans Selye an Austrian first introduced the concept of stress in to the life sciences in 1936. An individual can experience stress from the four basic sources, the environment, social stressors, physiological and thoughts(Matthews, 2001). The occupational stress effects the health and well-being of the employees directly acting on the body causing physiological damage and mind causing psychological damage. The 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). Chen (2008) reported the association of occupational stress and social support with health related behaviours among the Chine Offshore oil workers. Chen concluded the health outcomes of social support in handling the occupational stress.

II. Review of Literature

Prasad et. Al. 2015. Reported the moderate effect on employee's performance in his study at 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 (Prasad et. al. 2015). 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). Prasad et.al. (2016) in his research study on school teachers with social support and coping strategies concluded there were significant difference among male and female teachers. Mark & Smith (2011) demonstrated the importance of coping favors in work-stress research in accordance with the multi-factorial premise of transactional stress models and suggesting multi-factor research to help and develop effective organizational interventions. Sader Myra et. al. (2015) in their IT services survey, reported the role of social support on occupational stress using a network approach reporting more social support and less occupational stress. Madeline Weiss (1983) observed that the level of social support among Information Systems Managers is lower than the level of social support among other managers in his studyEffects of Work Stress and Social Support on Information Systems Managers in United States. Rakesh (2012) observed a positive and significant correlation between organizational role stress and social support.Saharay E. Cosio and Lynn Olson and Joseph P. Francis (2011) in their study on social support and occupational stress among University employees observed a significant inverse relationship was found between work-related social support and occupational stress. The perceived supervisor support had a greater impact on improved levels of job satisfaction, as compared to support received from work colleagues (Paula Brough& Judi Pea, 2004)

Stress in General

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 &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& 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&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).

Role ambiguity is the degree to which clear information is lacking, the expectation associated with a role and method for fulfilling known role expectations; finally the consequences of role performance (Graen, 1976; Kahn et. al. 1964). The occupational stress can be caused by role ambiguity appear to cause lower productivity, tension, dissatisfaction, and psychological withdrawal from the work group (Van Sell et al., 1981)

III. **Logistic Regression**

The natural logarithm logit of an odds ratio is the main mathematical concept that underlies logistic regression. The logistic regression used for testing hypothesis about a relationship between categorical outcome variable and one more categorical or continuous predictor variables (Peng et al. 2002) in our study. We carried out logistic regression analysis as linear and multiple regression models sometimes, the ordinary scatterplots are curved at the end with S-Shape and is difficult to interpret because the extremes do not follow the linear trend and errors are neither normally distributed nor constant across entire range of data (Peng, Manz, & Keck, 2001). To overcome this problem from logistic regression applying logit transformation to the dependent variable. In the essence logistic model predicts the logit, the natural algorithm of response variable (dependent) over continuous variable (independent). The simple form of logistic regression adopted from (Peng et al. 2002) is: $\text{Logit}(Y) = natural \log(\text{odds}) = \ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta X$

Where β is the regression coefficient; π = Probability(Y=outcome of interest|X=x and α is the Y intercept and this can be extended to the multiple predictors the equation is:

$$Logit(\mathbf{Y}) = naturallog(odds) = ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta_1 X_1 + \beta_2 X_{2+} + \beta_3 X_{3+} + \dots$$

Where β s are regression coefficients, Xs are set of predictors. The α s and β s are typically estimated by the Maximum Likelyhood (ML) method which is preferred over the weighed least squares method (Haberman, 1978 Schlesselman, 1982)

Multinomial Logistic Regression: The multinomial logistic regression is an extension of simple logistic regression that generalized to multi class problems such as with more than two possible discrete outcomes. Using this model web predicted the probabilities of the different possible outcomes of a categorically distributed dependent variable or response variable and a set of independent variables which arecontinuous, binary or categorical. Using multinomial regression the dependent variable in question is a nominal where more there are more than two categories (Suryanwanshi et. al. 2015). The nominal outcome variables using multinomial logistic regression are modelled in which the log odds of the outcomes are modelled as linear combination of the predictor variables (Suryanwanshi et. al. 2015). Sudhir Chandra Das (2016) in his study reported the results on predictors of work-family conflict and employee engagement among employees in Indian Insurance Companies applying multinomial logistic regression analysis. Several researchers (Suryavanshi et. al. 2015; Sateeshkumar&Madhu, 2012; Stephen, 2014; MasoudLotfizadeh 2014) reported their results on occupation stress and associated factors using multinomial logistic regression. However, the authors observed very limited research using logistic and multinomial regression measuring occupational stress, coping with relation to performance in particular working in agricultural research sector employees. Therefore, the authors attempted to use multinomial logistic regression method for evaluating the factors of occupational stress, coping with relation to performance of agricultural research sector employees.

IV. 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 work, the authors pursued this study surveying the agricultural research sector employees in and around Hyderabad Metro, considering social support and coping strategies and their association with occupational stress and performance.

Is social support and coping strategies are the predictors of occupational stress?

• To study the relationship of social support and coping strategies with occupational stress and coping in agricultural research sector employees.

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

 H_{01} : There is no association between Social support and occupational stress and performance in agricultural research sector employees

 H_{11} : There is association between Social support and occupational stress and performance in agricultural research sector employees

 H_{02} : There is no association between Coping strategies and Occupational stress and performance in agricultural research sector employees

 H_{12} : There is an association between Coping strategies and Occupational stress and performance in agricultural research sector employees

V. Research Methodology

Conceptual Framework: The proposed framework was adopted based on the past research by Behr (1998) and Prasad *et al.* (2015& 2016) with minor modifications in accordance with our study. The following frame work is formulated on the objectives to be achieved shows the linkages of the factors in this study (Figure 1). The factors of work place stressors, social support, coping strategies and performance are indicated in the respective boxes of figure 1.



Sample Size: A sample size of 300 was selected using simple random sample sampling where each member of the subset has an equal probability of being chosen and data from 300 respondents was used for the analysis. The demography of sample presented in Tables 1 &2.

Table 1:Demography of Sample					
Gender	Frequency	Percent			
Men	200	66.67			
Women	100	33.33			
Total	300	100			
Source: Primary data					

Table 2: Sample Description	
Age Group	No of respondents
20-29	77
30-34	83
35-39	72
>40	68
Source: Primary data	

Research Instrument for data gathering: The research instrument used for the survey is a selfadministered structured undisguised questionnaire using three scales – a) Occupational stress scale based on occupational stress index (OSI) developed by Srivastava AK and Singh AP (1984) which has 39 statements including 12 reversed keyed statements covering 5 factors with five point Likert scale ranging from Strongly agree (5) to Strongly disagree (1); Performance scale based on Higher-Order performance Dimensions model proposed by Campbell (1990) which has 20 statements covering 7 factors using a 9 point Likert scale with values ranging from +4 to -4. This was converted to a 5 point scale for ease in calculation; +4 and +3 becoming 5, +2 and +1 becoming 4, 0 becomes 3; -1 and -2 becomes 2; -3 and -4 becomes 1. The scores range from 5 (strongly agree to 1(strongly disagree). The statements consists of 15 true keyed and 5 reverse keyed. The coping strategies scale constructed and standardized by AK Srivastava (2001) has 20 statements describing the factors Approach and Avoidance copings using a Liker scale with 5 (Almost Always) and 0(Never) are main source for the primary data collection.

For measuring the social support the statements like "How easily can you get help from neighbours when required"; "How many people are very close to you and will come for help voluntarily if you have serious and unpredictable issues"=; "How seriously neighbours and colleagues concern what you are doing" were concerned best predictors of social support among the employees.

The support scale has 20 items with 5 reversed key items, a modified version of based on the multidimensional scale of perceived social support (Zimet, 1988) based on five point Likert scale from a rating scale of 1(never) to 5 (almost always). 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,

Demographic variables like age, sex, number of years of experience, highest qualifications and other background information/personal details of the respondent were collected. The Section II of questionnaire was used to find out the stress levels of the employees, coping strategies and impact of the stress on performance as described above. To measure each factor, a range of 5 to 10 questions were given but all these questions were mixed systematically and the factors and their items listed in Table 3.

Table 3:Stress causing factors and performance factors used in the study				
Factor	Factor	Items		
1	Work overload	7: Number of hours, class size, result percent, enrollment, post school		
Stressors		assignments, number of meetings, lesson planning		
2	Role Overload	8: Too many expectations, role conflict with dual roles, conflict at home and work, etc.		
3	Role Ambiguity	8: Unclear explanation of role, confusion, too many untrained assignments, etc.		
4	Colleagues behaviour	6 Colleague knowledge, conflicts, behavior, understanding		
5	Work Environment	10: Lighting, Ventilation, ergonomics, working hours, crèche, medical care, congenial working		
6	Co-workers	5: Receive help from co-workers, friends, subordinates		
Social				
Support				
7	Instrumental support	5: Support from supervisor, colleague, families, friend, etc.		
8	Emotional support	5: Supervisors, subordinate, colleague, family, relatives		
9	Approaching coping	10: Confront, Plan, Impulsive decision, alternative solutions, console,		
Coping		scheduling action plan, etc.		
10	Avoidance Coping	10: Leave, Off to sleep, smoking, alcohol, excessive eating, escaping, withdrawal, resignation, etc.		
11	Performance	7: Low productivity, loss of motivation, absenteeism, relationship with co- workers, task proficiency, personal discipline.		

Data Analysis: We have applied statistical techniques to analyze 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.

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. The Cronbach alpha is an index of reliability that may be thought of as the mean of all possible split-half co-efficient corrected by Spearman-Brown formula (Cronbach, 1951) and subsequently elaborated by others (Novic&Lews, 1967; Kaiser & Michael, 1975). The estimated values of the Cronbach's alpha are indicated in Table-4. The Statistical Package for Social Sciences (SPSS ver. 24) was used to measure the central tendency, measures of variability, reliability statistics, and to predict the dependent factor PAS based on independent factors the multinomial logistic regression analysis carried out (IBM SPSS Statistics, 2016).

Formula for Cronbach's Alpha (C-alpha can vary between 0.00 and 1.00)

$$r_{\alpha}\left(\frac{N}{N-1}\right)\left(1-\frac{\Sigma\sigma_{j}^{2}}{\sigma^{2}}\right)$$

Where r_{α} is coefficient alpha; N is the no of items; σ^2 variance of items $\Sigma \sigma_i^2$ is sum of variances of all items and σ_i^2 is the variance of the total test scores

Reliability test of the Questionnaire: The outcome of the survey was measured using a Likert-type scale with items 1-5 for all the questionnaires. In case of performance a 9 point Likert type scale was used (+4 to -4)was converted to a 5-point scale for ease of calculation and analysis. The reliability statistic Cronbach's alpha coefficient value (C-alpha) was calculated to test the internal consistency of the instrument (appraisal form in this study), by determining how all items in the instrument related to the total instrument (Gay, Mills, &Airasian, 2006). This instrument was tested with the data of 50 employees and using SPSS the Cronbach alpha static was measured at 0.78, suggesting a strong internal consistency. Three months later, keying data for all the 300 employees the overall C-alpha measured at 0.89 and it ranged from .0.80 to 0.88 for the all independent and 1 dependent factors (Table 4).

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 0.86 and Spearman-Brown Prophecy was 0.90 suggesting strong reliability of the instrument. In the Table 4we presented the computed C-Alpha Static, for factors in the study (William Trochim, 2006).

The Statistical Package for Social Sciences Version 24 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 (IBM SPSS Statistics, 2016).

Table 4: Cronbach's alpha values for factors used in this study					
Sl. No	Factor	Cronbach's alpha			
	Overall independent Stress Factors (1-9)	0.82			
1	Work overload	0.80			
2	Role Overload	0.71			
3	Role Ambiguity	0.72			
4	Colleague Behaviour	0.82			
5	Work Environment	0.70			
6	Co-workers	0.78			
7	Instrumental support	0.73			
8	Emotional support	0.72			
9	Approaching coping	0.72			
10	Avoidance Coping	0.78			
11	Performance	0.76			
Overall: Split-Half (odd-even) Correlation: 0.86 Spearman Brown Prophecy: 0.90					
Source: Primary Data					

VI. Results

Factors associated with stress

The bivariate analysis was performed to identify the factors responsible for occupational stress among the agricultural research sector employees. Later, most significant predictors of occupational stress were identified used multinomial logistic regression. In bivariate analysis the stress was categorized into two modes (stress/no stress). Similarly, other demographic variables recoded for carrying the analysis. Like was based on the coping strategies and social support received also indicted in the Table 5. The association of socio demographic factors with occupational stress were presented in Table 5.

The association of socio demographic factors with occupation stress results were presented in Table 5. The results indicate that 46% of Men and 54% of women employees experienced stress, 62% less than in the age group of <34 years of experience stress where as 38% in the age group of >34 years. It was observed there were no statistically significant differences observed on occupational stress with relation to age, gender, and non-teaching activities. However, those employees who received social support and followed coping strategies experienced less stress than others. The results are statistically significant (coping strategies p = 0.021) and (received social support, p < 0.014)

Table 5: Association of socio demographic factors with occupational stress, social support and coping									
strategies									
		No Stress	Stress	UnadjustedOR	P Value				
		(N=170)	(N=130)						
Gender	Women	120(76.47)	70(52.94)						
	(200)	130(76.47) 70(55.84)		1.007	0.279				
	Men#			1.097	0.278				
	(100)	40(23.53)	60(46.16)						
Age	Up to 34 years								
	(186)	106(62.35)	80(61.54)	0.086	0.264				
	>34 years			0.980					
	(114)#	64(37.65)	50(38.46)						
Coping Strategies Yes(210)		140(82.35)	80(61.54)	0.979	0.022*				
	No(90)#	30(17.65)	50(38.46)	0.878	0.022**				
Receive Social	Yes(190)	130(76.5)	70 (53.85)	0.762	0.014*				
Support	No(110)#	40(23.50)	60(46.15)						

OR: Odds Ratio, * P value<0.05, # - Reference category

Multivariate analysis

The Table 6described the findings of multinomial logistic regression carried out to predict the independent factors associated with occupational stress among agricultural research sector employees. The multinomial logistic regression analysis measures the effect of change in variation of one of the independent variable on the variation of the dependent variable –performance and explain the variation. The effect of

different independent variables was explained in the relative log odd ratios (OR or $Exp(\beta)$). The results portray that except independent variable co-worker all the variables are significantly associated with the occupational stress and effect the performance factors task proficiency, and low morale. The relative log odds ratios has significant negative influence of independent variables Workload (OR 0.4169, 95% CI 0.165-0.987), Role overload (OR 0.1769, 95% CI 0.05-0.2370), Role Ambiguity (OR 0.1092, 95% CI 0.037-0.218) Students Behaviour (OR 0.3325, 95% CI 0.124-0.689), School environment (OR 0.5032, 95% CI 0.212-1.22), Coworkers (OR 0.3657, 95% CI 0.118-0.547), Instrumental support (OR 1.3840, 95% CI 0.213-0.787), Emotional Support (OR 0.3628, 95% CI 0.136-0.512) Approach coping (OR 0.3329, 95% CI, 0.114-0.234) Avoidance coping (OR 0.3671, 95% CI 0.171-0.441) for Stress causing factors, social support and coping strategies vs performance with overall performance as reference variable. Adaptation of the Approach and Avoidance coping strategies able to reduce the occupational stress, and in case of social support, the co-workers and emotional social support have positive impact on performance with reducing the stress. The relative log odds indicate that task proficiency, loss of motivation and low morale are the factors effected by occupational stress. Increase in social support will decrease the stress and improves the performance (Table 6).

The β is the regression coefficient and e=2.71828 (the base of the natural logarithm) and the results are expressed in natural logarithm of an odds ratio. This indicates for each unit increase in the independent variable Role overload the odds of being decrease in Performance from 1 to 0.177 (=e^{-1.732} = 2.71828^{-1.732}) versesOverall Performance as reference category and so on. Similarly, for each unit increase in Approach coping strategies the likely odds of being decrease occupational stress from 1 to 0.333(=e^{-1.1}) verses overall performance is reference variable with other factors kept constant. One unit increase social support from co-workers decrease the occupational stress from 1 to 0.356 and so on. In the same way one unit increase in task proficiency the likely odds of being increase in performance from 1 to 6.44 units (=e^{\Lambda^{1.86}}) and so on. The results indicate the gender has insignificant influence on occupational stress and performance of the agricultural research sector employees. A Wald test calculates a Z statistic, which is the ratio of the coefficient β to its standard error and the resultant Z is squared to yield Walt Statistic. Menard (1995) warns that for large coefficients, standard error is inflated, lowering the Wald statistic (chi-square) value. Agresti (1996) states that the likelihood-ratio test is more reliable for small sample sizes than the Wald test.

Table 6:Predicted probabilities from Multinomial Logistic Regression of the influenceof stress causing independent factors and coming strategies on dependent factor Performance (Odds Ratios and 95% CL for Exn(ß)									
and coping strategies on dependen			I manee(Ou				(13)	95% Confidence	
Variable		ß	Std. Error	Wald Statistic	df	Sig.	Exp(ß)	Interval Lower Bound	for Exp(B) Upper Bound
Stress Related	Intercept	42.719	5.818	53.917	1	0			
Factors and	Workload	-0.875	0.448	3.8147	1	0.043	0.4169	0.165	0.987
	Role Overload	-1.732	0.436	15.7806	1	0	0.1769	0.05	0.237
	Role Ambiguity	-2.215	0.501	19.5466	1	0	0.1092	0.037	0.218
	Students Behaviour	-1.101	0.423	6.7748	1	0.005	0.3325	0.124	0.689
	School environment	-0.513	0.434	1.3972	1	0.187	0.5032	0.212	1.22
Social support	Co-Workers	-1.006	0.402	6.2624	1	0.002	0.3657	0.118	0.547
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Instrumental	0.325	0.132	6.0620	1	0.04	1.3840	0.213	0.787
	Emotional	-1.014	0.406	6.2377	1	0.001	0.3628	0.136	0.512
Coping Strategies	Approach Coping	-1.1	0.387	8.0791	1	0.012	0.3329	0.114	0.234
	Avoidance coping	-1.002	0.406	6.0909	1	0.001	0.3671	0.171	0.441
Performance (Employee)	Task Proficiency	-1.862	0.437	18.1550	1	0.001	0.1554	0.119	0.535
	Loss of Motivation	-1.638	0.837	3.8298	1	0.001	0.1944	0.164	0.231
	Low Morale	-1.082	0.437	6.1304	1	0.001	0.3389	0.371	1.001
	Absenteeism	-1.064	0.437	5.9282	1	0.287	0.3451	0.132	0.461
	Relationship with Co- workers	-1.032	0.437	5.5769	1	0.381	0.3563	0.111	0.506
	[Gender=F]	0.749	0.573	1.71	1	0.191	2.1149	0.688	6.499
	[Gender=M]	0 ^b			0				
a. Reference category is Performance Overall b. This parameter is set to zero because it is redundant. Exp(B): Odds Ratio, *P <0.05									

Therefore we reject the null hypotheses  $H_{01}$ : There is no association between Social support and occupational stress and performance in agricultural research sector employees  $H_{02}$ : There is no association between Coping strategies and Occupational stress and performance in agricultural research sector employees and accept the alternate hypotheses  $H_{11}$ : There is an association between Social support and occupational stress and performance in agricultural research sector employees;  $H_{12}$ : There is an association between Coping strategies and Occupational stress and performance in agricultural research sector employees;  $H_{12}$ : There is an association between Coping strategies and Occupational stress and performance in agricultural research sector employees

### VII. Discussion

The primary data gathered to structured undisguised questionnaire with 81statements which were subdivided into 11 factors based on their characteristic grouped as stress causing factors, social support, coping factors and performance factors. These findings include the two extremes of the Likert scale given in the analysis i.e. strongly disagree and strongly agree. The results when compared with gender indicated that there were statistically significant differences among the women and men. The results are in line with the Chen, et. al. (2008) and HazilyIzwar Ibrahim (2014) who the relationship between job stress, co-worker support on organization based self-esteem. Our results also to the similar to a study carried out Moeller, Christin (2009), on Stressors, Strains and Social Support: Occupational Experiences of University Professors. The researchers'reduction of faculty stress by informing procedures geared toward the reduction of strain as a result of occupational demands and following social support strategies.

The research did find significant differences between the employees those who received social support and who followed the coping strategies who experienced less occupational stress compared to those employees who do not have required social support and coping. The medium and moderate level stress exists at workplace and is manageable with job design changes, adjusting school environment which improve performance.

Survey research will have some problems associated with its use as these are self-administered instruments may not be complete and reliable. It is very difficult to follow a single social support questionnaire as the human beings behave differently across the world. We have surveyed the literature, and reviewed several research articles and developed the questionnaire, which we believe perfectly fits in our study. To address and confirm the issues related to the internal consistency of the research instrument we measured 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 copies to the employees, and we expect some biasedness because of the work environment and ethics. The researcher have no idea whether who has filled the form for same cases. The author can be only make guess based on their age. The authors observed the similar answers from the hard copies received from the pilot study and final survey with insignificant differences.

## VIII. Conclusion:

The literatures suggest that recent changes in the values and practices of work culture and research agenda are contributing considerably to the stress levels among agricultural researchers. The present results indicate that increased occupational demands not only have considerable consequences for health and wellbeing of the agricultural research employees but may also affect the institutes outcome as a whole. The present study also provides empirical evidence that the role of social support and coping strategies applied to counter stress in the institute may depend on the type of stressor encountered, the social support source, as well as the outcome. The results from this study also suggest that workplace social support is neither a uni-dimensional nor a consistent. In fact, perceived social support may exacerbate the adverse effects of certain work-related stressors. These results warn against a sole focus and reliance on co-worker social support as a means to reduce occupational stress. The organizational administrators would be well advised to also address the root of employee stress by reviewing the requirements and responsibilities they bestow upon their teaching staff.

### IX. 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. 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. 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 for the employees. 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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