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Investigating Location Differences in Influence of Parameters on Organizational Role Stress among IT Sector Employees

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Abstract: Organizational Role Stress (ORS) experienced at workplace has been recognized to have adverse impact on employee performance in any organizational sector. This paper attempts to investigate on possible differences in the extent to which different parameters such as emotional intelligence, organizational commitment, attitude to change and socio-demographical characteristics influence ORS experienced by Information Technology sector employees working in different locations. The statistical analysis of the survey carried out among employees located in three major cities of South India reveals subtle differences in the extent to which different parameters considered influence ORS, that can possibly be attributed to the differences in employee diversity, regional lifestyles and values.

Keywords: Organizational Role Stress, Emotional Intelligence, Organizational Commitment, Attitude to change, Socio-demographical characteristics and Information Technology sector

I. Introduction

Modern organizations can persevere in the dynamic, competitive environment of today only if they make use of the full potential of each employee. Dynamic business environment at workplace often results stress related to the role performed by the employee in the organization. This role stress is one of the important determinants of successful adjustment and subsequent performance of an employee. The stress induced due to roles performed by individuals as employees has been a potent organizational stressor [1, 2]. Such stress can contribute to various dysfunctional outcomes for the organization like job related tensions, job dissatisfaction, lower performance, etc. [3]. Some of the stressors identified in any work environment, that has a major influence on employee performance include, work overload, unsupportive relationship, work life imbalance, poor communication, poor working conditions and changes in organizational process. Towards this, Emotional Intelligence has been found to be very effective in preventing stress among employees [4, 5].

India with its strategic positioning has evolved into a major destination for Information Technology (IT) based organizations and has been recognized to be among the top ten high stress workplaces [6]. Estimating the level of role stress among employees in such industries undoubtedly is important in alleviating factors influencing the stress but also will be of great help in devising coping strategies. This paper is devoted to, presenting the details of investigation carried out towards identifying major factors that can be important in estimation of role stress levels among employees particularly engaged in the Indian IT sector. Consequent section presents recent and relevant studies undertaken in this direction along with definitions of the parameters employed in the study. The study methodology, description of the instrument developed and its validation are presented in the subsequent section. Analysis of the data collected and major interpretation of the results are discussed in the penultimate section with a concluding section summarizing the major findings from the study and possible scope for future studies.

II. Review of Literature

This study mainly focuses on estimating the level of Organizational Role Stress (ORS) among the employees particularly in IT sector owing to the unique work environment prevailing. Pestonjee had identified 3 important sectors of life from which stress originates namely as, (i) organizational & job sector (ii) social sector and (iii) intra-psycho sector [7]. Organizational/ job stress has been defined in terms of a misfit between skills & abilities of a person and the demands of his/her job. The concept of organizational/job stress falls under the umbrella of a broader concept known as role stress. Role stress refers to the conflict and tension due to the roles being enacted by a person at any given point of time. Enacted in the context of organizations, such role stresses are called organizational role stress. The stress induced due to roles performed by individuals as employees had been a potent organizational stressor, the outcomes of which have been found to be costly to the organization [8]. One of the pioneers of research on organizational role stress, Pareek had reiterated that the performance of a role in an organization had built in potential for conflict due to which stress may start rearing its head [9].

Pareek identified ten different types of organizational role stressors. They are described here briefly.

- i. *Inter-role distance (IRD)*: Conflict between organizational and non-organizational roles.
- ii. *Role stagnation (RS)*: The feeling of being stuck in the same role.

- iii. *Role expectation conflict (REC)*: Conflicting expectations and demands between different role senders.
- iv. *Role erosion (RE)*: The feeling that functions that should belong to the respondent's role are being transformed/performed or shared by others.
- v. *Role overload (RO)*: The feeling that more is expected from the role than the respondent can cope with.
- vi. *Role isolation (RI)*: Lack of linkages between the respondent's role and that of other roles in the organization.
- vii. *Personal inadequacy (PI)*: Inadequate knowledge, skills or preparation for a respondent to be effective in a particular role.
- viii. *Self-role distance (SRD)*: Conflict between the respondent's values/self-concepts and the requirements of his or her organizational role.
- ix. *Role ambiguity (RA)*: Lack of clarity about others' expectations of the respondent's role, or lack of feedback on how others perceive the respondent's performance.
- x. *Resource inadequacy (RIn)*: Non availability of resources needed for effective role performance.

According to Salovey and Mayer, Emotional Intelligence (EI) is an "ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" [10]. EI guide us to respond appropriately to different stressors and is one of the essential factors. Ayranci studied the concepts of EI and stress, and conducted a study of the relationship between these two variables [11]. The nurses who worked at some of the private and governmental hospitals in Turkey were studied, and this study identified a significant relationship between EI and stress. The study of Riaz and Khan was set out to find the impact of EI and stress on 150 faculty members of graduate teaching sector in Pakistan [12]. The results indicated that EI has a weak negative relation with stress.

Porter et al. defined Organizational Commitment (OC) as the relative strength of an individual's identification and involvement in a particular organization [13]. (i) *Affective commitment (AC)* refers to employees' emotional attachment, identification with, and involvement in the organization. Employees with a strong affective commitment stay with the organization because they *want to*. (ii) *Continuance commitment (CC)* refers to employees' assessment of whether the costs of leaving the organization are greater than the costs of staying. Employees who perceive that the costs of leaving the organization are greater than the costs of staying remain because they *need to*. (iii) *Normative commitment (NC)* refers to employees' feelings of obligation to the organization. Employees with high levels of normative commitment stay with the organization because they feel they *ought to*. Mohamadkhani and Lalardi established explicit relationship between emotional intelligence and organizational commitment in his study of the hotel staff in 5-Star hotels of Tehran, Iran [14].

There is evidence in the change management literature identifying the role of organizational commitment in a change context. Cameron determined the levels of employee commitment and employee perceptions of the planned organizational changes [15]. The research was conducted in a large telecommunication organization in South Africa with over 20,000 employees. The results collected for this research indicated positive correlations between Affective Commitment and employee attitudes and perceptions of change. The results also suggested that higher levels of Affective Commitment are associated with more positive perceptions of change.

The present study examines the level of organizational role stress (ORS), emotional intelligence (EI), organizational commitment (OC), employee attitude to change (ATOC) and socio-demographical characteristics among employees and also examines the role of EI, OC, ATOC and socio demographical characteristics on ORS level of employees.

III. Questionnaire Design

The questionnaire for the investigation was developed by means of instruments established through previous researches. The organizational role stress (ORS) scale, which was developed and standardized by Pareek to measure the role stress, had been used in this study [16]. The ORS instrument comprised of 50 items to measure 10 different types of role stressors (5 statements for each role stressor) assessable on a five point likert scale. The EI level was measured with The Emotional Intelligence Scale developed by Schutte et al. comprising 33 items classified into four dimensions namely (i) *perception of emotion (POFE)* evaluated by 10 items; (ii) *managing others emotions (MOTE)* by 8 items, (iii) *managing own emotions (MOWE)* by 9 items and (iv) *utilization of emotion (UOFE)* by 6 items [17]. Instrument developed by Allen and Meyer with 18 items classified in to three dimensions, namely: (i) *affective (AC)*; (i) *continuance (CC)*; and (iii) *normative (NC)* assessable with five point likert scale for measurement of OC was employed in this study [18]. Five items that measure attitudes to change (ATOC) were chosen from the instrument Attitudes to Change Questionnaire (ACQ) developed by Vakola *et al.* [19].

Employee details on the socio-demographical characteristics had been compiled through additional 23 items. The socio-demographical characteristics of the employees were categorized as personal attributes that comprising age, gender, family status, number of children, educational qualification, native place, number of family members and earning members and annual income; job attributes that includes number of days leaves availed, total experience, job overtime, salary satisfaction, challenging nature of work, recognition and

appreciation for employee contribution and effective skill application and environmental attributes such as experiencing organizational change.

Thus the instrument developed for the study comprised a total of 129 items essentially derived from well established instruments reported in the literature.

IV. Data Collection and Analysis

The population chosen for the study had been drawn from individuals employed in IT sector, essentially working in different places in the state of Kerala, Chennai and Bangalore located in the southernmost part of India. Study sample had been chosen through random sampling technique. The survey conducted through personal interview yielded a total of 759 (that includes 472 from Kerala, 158 from Bangalore and 129 from Chennai), duly completed questionnaires from a total of 850 distributed resulting in a response rate of 89.29%. The minimum sample size needed for this study estimated based on Bill Godden [20], recommends 384 for estimated population size of two hundred thousand having 50% response distribution with 5% margin of error and at 95% confidence level. The estimate was subsequently verified through software developed by Raosoft. Inc. [21]. Data collected in this investigation were analyzed using Statistical Package for Social Sciences (SPSS version 17.0). The results obtained from the analysis and inferences derived are presented below.

Initially, the internal consistency of the instrument developed for the study was evaluated through Cronbach's alpha test that demonstrated excellent reliability. The values of Cronbach's alpha test obtained for different parameters used for evaluation as from data obtained from all the three regions are presented in table 1.

Table 1: Cronbach's alpha value

No.	Variables	Chronbach's alpha		
		Bangalore	Chennai	Kerala
	IRD	0.81	0.80	0.80
	RS	0.78	0.76	0.72
	REC	0.75	0.72	0.78
	RE	0.69	0.67	0.67
	RO	0.82	0.71	0.78
	RI	0.76	0.70	0.75
	PI	0.79	0.71	0.68
	SRD	0.74	0.70	0.70
	RA	0.77	0.71	0.82
	RIn	0.76	0.73	0.76
	ORS	0.96	0.94	0.95
	MOTE	0.67	0.69	0.68
	MOWE	0.73	0.73	0.69
	POFE	0.72	0.69	0.73
	UOFE	0.69	0.71	0.68
	EI	0.87	0.86	0.85
	AC	0.66	0.79	0.69
	CC	0.74	0.77	0.71
	NC	0.77	0.74	0.82
	OC	0.79	0.81	0.84
	ATOC	0.81	0.82	0.74

Kaiser-Meyer-Olkin (KMO) and Bartlett's Test measure the strength of relationship among variables. Bartlett's test of sphericity tests the hypothesis that the correlation matrix is an identity matrix; i.e. all diagonal elements are 1 and all off-diagonal elements are 0, implying that all of the variables are uncorrelated. If the significant value for this test is less than our alpha level, we reject the null hypothesis that the population matrix is an identity matrix. The significant value for this analysis leads us to reject the null hypothesis and establish that there exist correlations between the parameters and the data set is amenable for factor analysis. The KMO measures the sampling adequacy and it compares the values of correlations between variables and those of the partial correlations. If the KMO index is more than 0.6, the sample size is adequate and it is feasible for factor analysis. The results of KMO and p values of Bartlett's test of different parameters presented in the table.2 indicate that the sample size is adequate and it supports factor analysis.

Table 2: Results of KMO and Bartlett's test

Variables	Location	KMO measure of sampling adequacy	Bartlett's test of sphericity	Significance
EI	Bangalore	0.80	1712.150	0.000
	Chennai	0.74	1207.443	0.000
	Kerala	0.84	3122.350	0.000
OC	Bangalore	0.80	926.316	0.000
	Chennai	0.76	763.390	0.000
	Kerala	0.86	2724.135	0.000
ATOC	Bangalore	0.70	272.007	0.000
	Chennai	0.75	215.882	0.000
	Kerala	0.71	370.928	0.000
ORS	Bangalore	0.88	4693.288	0.000
	Chennai	0.82	3502.536	0.000
	Kerala	0.89	7169.566	0.000

The level of EI, OC, ATOC and ORS among the employees of Bangalore, Chennai and Kerala was estimated. Tables 3a, 3b and 3c present the comparison of mean value of EI, OC, ATOC and ORS levels of IT employees pertaining to the three different locations.

Table 3a: Comparison of EI

Location	MOTE (max:10)	MOWE (max:10)	POFE (max:10)	UOFE (max:10)	EI (max:10)
Bangalore	7.31	7.24	6.90	7.49	7.20
Chennai	7.70	7.80	7.43	7.82	7.67
Kerala	7.5	7.62	7.1	7.67	7.45

Table 3b: Comparison of OC and ATOC

Location	AC (max:10)	CC (max:10)	NC (max:10)	OC (max:10)	ATOC (max:10)
Bangalore	5.92	6.07	6.10	6.02	7.15
Chennai	6.31	6.58	6.28	6.38	7.53
Kerala	6.51	6.14	6.28	6.31	7.07

Table 3c: Comparison of ORS

Location	IRD (10)	RS (10)	REC (10)	RE (10)	RO (10)	RI (10)	PI (10)	SRD (10)	RA (10)	RI _n (10)	ORS (10)
Bangalore	5.59	5.70	5.97	5.25	6.15	5.56	5.67	5.48	5.66	4.98	5.29
Chennai	6.11	6.26	6.58	6.62	5.64	5.75	5.61	6.09	5.28	5.31	5.83
Kerala	6.185	5.865	5.87	6.735	6.055	6.225	6.39	4.785	6.47	6.05	6.065

It can be observed from tables 3a, 3b and 3c that among EI dimensions, utilization of emotion was found to be high in all the three places. Therefore the employees have the ability to harness emotions to facilitate various cognitive activities such as thinking and problem solving. The self management of emotion being high in Chennai and Kerala, it can be attributed to the organizational culture prevailing and high educational qualifications of the incumbents. Among the types of OC, all the three are only moderately high indicating lesser loyalty of the employees towards the organization as well as to the work and may well explain the relatively high attrition rate prevailing in the industry as a whole. Among the different components of ORS, it can be observed that the employees in this sector essentially demonstrate relatively high role erosion followed by role ambiguity and personal inadequacy in Kerala as compared to other stressors indicating low organizational support in these directions. This can be explained by the fact that in most of the organizations from which data were collected, belong to high employment category and hence the management intervention towards individual employee needs being limited. However, in Chennai, the results reveal high role erosion followed by role expectation conflict and role stagnation indicating diminished employee involvement, undue expectations from job, and high performance pressure. While, Bangalore reveals, high role overload, followed by role expectation conflict and role stagnation indicating high performance pressure from superiors and lower perceived opportunity for career progression. Overall, the results can be summarized that the employees in this sector experience relatively high role erosion followed by role expectation conflict and role overload.

As a second stage of the study, inter relationship between the parameters including EI, OC, ATOC, ORS and other socio-demographic characteristics were established. Initially, multi-collinearity between the pairs of parameters was checked. Step wise regression was employed using components of EI & OC, ATOC and socio-demographical characteristics as the independent parameters and ORS being the dependant variable.

A total of 18 independent variables were examined for the degree of influence over ORS and the results obtained are presented in table.4. It is observed that only 12 out of the 18 parameters chosen to be independent variables, in particular, UOFE, AC, CC and ATOC exhibit significant influence over ORS experienced by the employees belonging to all the three regions selected for the study.

From the table.4, it is explicit that ORS depends on MOWE, age and working hours apart from the commonly influencing variables indicated above, among employees in Bangalore. The sample drawn from this region demonstrates a diverse work force constituting employees from different parts of the country comprising 65percent of males. It can be observed that stress levels as well as commitment are low among these employees owing to the life style and work culture prevailing in the region. The sample drawn from Chennai, it can be observed that ORS additionally depends on MOTE and no. of earning members. The sample had a slightly diversified population with about 70% had been native of the region and dominated by males. The region characterized to exhibit higher stress level as compared to Bangalore, can be attributed to higher affliction to family values with lesser relaxation opportunities. The regression model for sample drawn from Kerala reveals that POFE, no. of family members, annual income of the employees and working hours have an influence on ORS in addition to the common parameters. The sample comprised a very high number of native employees

characterized by highly conservative life style. It can be observed that the employees exhibit higher stress levels, with increased working hours and work extending over family.

The results clearly reveal the regional characteristics of the employees, and their natural ability to cope up with stress experienced in work. Identification of the parameters influencing in different regions will go a long way in understanding the culture, life style pattern and values prevailing in the region attributing to work related stresses can be emphasized during the periodical training of the employees in the sector, ensuring minimizing stress experienced by the employees that can result in enhanced commitment levels.

V. Conclusion

Although this research was conducted among employees belonging to the IT sector in South India, the research was not specific to this sector. The high Cronbach's alpha values indicate a high internal validity of the questionnaire developed and used for the study. The results obtained are valuable in estimating the level of OC, EI, ATOC and ORS among the employees. In general, the qualification levels of the incumbents are relatively high resulting in a good EI values and also exhibits moderately high ORS. The study reveals the dynamic nature of the IT sector with frequent occurrences of the changes in the organizational process that has larger impact on the employees in the form of ORS. The results also indicate that there exists minimal organizational intervention to minimize the stress among the employees emphasizing on the need for reorientation of employee training. The study results are only indicative as the data pertains to a smaller section of employees belonging to a smaller region of the country embracing a unique value set. The results need to be validated through similar studies carried out in the different parts of India that is a confluence of diversified cultures. Similar studies can also be undertaken among other industrial clusters that will not only help the organizations in enhancing employee performance and commitment towards work and organization but also will act as a definite booster for effective Human Resource Development.

Table.4 Step-wise regression analysis

Independent variables	Bangalore						Chennai						Kerala					
	B	SE	β	Adj. R square	F	Sig.	B	SE	β	Adj. R square	F	Sig.	B	SE	β	Adj. R square	F	Sig.
Constant	-45.01	23.42		0.84	160.37	0.00	11.93	27.15		0.704	99.36	0.00	-78.85	29.29		0.690	131.89	0.00
MOTE							1.561	.761	.334									
MOWE	2.224	.312	.505															
POFE													1.1	.34	.21			
UTOE							2.18	.692	.513				1.92	.469	.265			
AC	1.672	.639	.185										-2.609	.355	-.33			
CC	1.46	.504	.197										3.39	.369	.413			
ATOC	0.79	0.02	0.84				0.78	0.02	0.84				3.002	.522	.265			
Age	24.33	7.023	.133															
Family Members													10.34	4.908	.055			
Earning Members							21.45	9.197	.114									
Annual income													10.12	3.506	.077			
Working hours	16.02	6.901	.077										21.74	6.528	.086			

Dependent Variable: Organizational Role Stress

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