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## Investigation of Employees' Stress Level in Pakistani Cell Phone Industry

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### Authors' contributions

*This work was carried out in collaboration between all authors. Author SAR designed the study, performed the statistical analysis, and wrote the first draft of the manuscript. Authors AY and AS collected the data. Author AY and AHN wrote the protocol, managed the literature searches and helped in improving the draft. Author SAR read and approved the final manuscript.*

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### ABSTRACT

**Aims:** The current study investigated the stress level of employees of Pakistani cell phone industry in terms of work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance as sub-scales.

**Study Design:** The study was descriptive in nature based upon the quantitative opinions of respondents collected through a survey scale.

**Place and Duration of Study:** The study was conducted at the Department of Business Education, University of the Punjab, Lahore, Pakistan during March- September 2012.

**Methodology:** A stratified random sample of 315 employees of three out of five companies was taken. Correlations were calculated within sub-scales and between sub-scales and total scale. One sample t-test, independent samples t-test and one-way ANOVA were employed.

**Results:** Pakistani cell phone industry is a male dominant industry where a low-to-moderate level of stress prevails among the employees. Sub-scale analysis identified 'role ambiguity' with the highest and 'relationships with colleagues' with the lowest stress level of employees. Among the three companies, employees of Warid expressed the highest level of stress whereas those from Telenor showed the lowest stress level. Ufone

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employees showed the moderate level of stress.

**Conclusion and Suggestions:** The study concluded that Pakistani cell phone industry is characterized with a low-to-moderate level of stress. It suggested cell phone companies to address the 'role ambiguity' issue of their employees and Warid Telecom is specifically suggested to take measures to improve the satisfaction level of employees to reduce their stress.

*Keywords: Work related stress; role ambiguity; role conflict; work intensification; relationships with colleagues; working conditions; bullying and harassment; work performance.*

## 1. INTRODUCTION

Organizations, groups and individuals are experiencing turbulent work environment characterized with competition for survival resulting in the demand for meeting targets and challenges. This demand puts them under pressure and accelerates stress [1-3] as a consequence of overwork, job insecurity, low levels of job satisfaction, and lack of autonomy [4]. Stress being the natural part of life, occurs whenever there are significant positive or negative changes in our lives as the internal reaction of our body to any external action [4].

Job stress, different from general stress, is created when employees' abilities do not match with job's requirements and they cannot adjust themselves according to the environment of an organization [3]. This pressure would result in tiredness and fatigue and employees get fed up from their job and may quit.

The advancement in information technology and reduced cost of data transmission has led the call center industry to witness an unprecedented growth based upon cost effectiveness and extended profit margins through increased sales to customers using latest technology [5]. Despite the growing importance of this industry, job stress at call centers is a hot topic of discussion these days as employees working in call centers face lots of pressure during their working hours. Factors such as day and night duties, repetition of same calls, overtime work, lack of benefits, irritating and abusive customers, competition to become most famous among the customers and much more [6-9] are responsible for this stress. To meet the above challenges, employees have a pressure on them, which results in high absenteeism, health issues, fatigue, job burnout, lack of spirit and enthusiasm, poor relationships with workers inside the organization, mental disorders etc. [6,10].

This paper concentrates on investigating the stress level of employees of Pakistani cellular companies. The findings of this descriptive study are based upon the quantitative opinions of respondents collected through a survey scale, a frequently used technique in social sciences. Inferences are made on the bases of measurement of level of stress in the industry and comparison of factors responsible for causing stress and their implications are discussed thereof.

## 2. LITERATURE REVIEW

Stress is simply a natural phenomenon [4] that spreads from human conception to the last breath [11] where internal and external forces affect the individuals who, in return, respond physically, mentally and expressively to different situations, changes and requirements of life

[12] that affect them as well as their environment. It is a perception of explicit frustrating actions, life cycle, transitions and conflicts with either one's confidence arrangements or his surroundings whole time [12] and a mental pressure resulting out of a particular situation or action which is against his nature.

Though usually taken as a negative experience, stress can be a neutral, negative, or positive experience [4,1,11]. Its positive aspect, present only at its mild level, is reported to be productive [13] but the negative side of stress activates sympathetic nervous system, stimulating the release of stress hormones throughout the body [5,11] on the pattern of [10] and [14], reports that uncontrollable, unpredictable, and constant stress has far-reaching consequences on physical and mental health such as a learned helplessness that leads to depression, chronic anxiety states, high blood pressure, heart disease, and addictive disorders [12].

The telecommunication industry, in contrast to the wire line telephone communication, is at the forefront of the information age as it delivers voice, data, graphics and video at ever increasing speeds and in an increasing number of ways [15]. The industry is growing by leaps and bounds and its growth rate is expected to be doubled with every passing year thereby causing large scale recruitments. There is a huge demand for software engineers, mobile analysts, and hardware engineers for mobile handsets. Besides, there are many opportunities for marketing people whose services are required to expand the customer base [16]. Telecom industry, "Call Centre", a voice-based customer service, that serves as a communication platform from which firms deliver services to customers via remote real-time contact [9] within and out of the country via wide telecom, web and database networks [7].

With the outstanding and massive development in telecom industry, there is a dark picture behind these phenomena. Employees working in telecom industry have a pressure to maintain their growth and stability leading to a high level of stress [6,7,17,9]. Call center employees are facing problems like continuous mobile calls making them victim of hearing problems, full time interaction with customers, limited time [18] extra workload [19], tasks difficult to be achieved, ill-mannered customers and above all night shifts that create physical illness and make the employees stressful [9]. These demands may be conflicting most of the time generating stress and hampering the employee productivity [20,21].

After elaborating the meanings and scope of stress, now its constituent factors and typologies need to be mentioned. Different studies [22,10,14,3,2,1,23] have provided stress factors and typologies. But the following types are being focused for the purpose of this study.

## **2.1 Work-related Stress**

This is a situation where employees' health and well-being [4] and productivity are at stake as a consequence of work-load, job uncertainty, job dissatisfaction and lack of self-sufficiency [24] has described that stress at work is strongly related to the major psychosocial harm to the employees that can affect the work. It is one of the serious problems employees confront at the work place. The author reported that it has a deep impact on all i.e. employees, employers and psychologists, because of its higher frequency for causing ill-health, as a result of factors responsible for this stress type.

## **2.2 Role Ambiguity**

Lack of clarity of roles creates ambiguity that affects employee performance in a significantly negative way and spoils the confidence to perform effectively and efficiently [3,1]. Role ambiguity bears a significant relationship with competency, person-job-fit and job performance of employee as the most important forecaster to the productivity [25]. This relationship is inverse in nature as the presence of role ambiguity is counterproductive and leads to different aspects of stress as a consequence there upon [1].

## **2.3 Role Conflict**

Role conflict refers the demand for incompatible simultaneous roles [3] where one role cannot be performed without ignoring the demands of other roles at the same time which may also be important creating frustration for the performer [1]. Role conflict directly affects employee's work performance as a measure of reduced innovation and creativity [3]. Call center employees remain under a constant threat as they face role stress as a result of conflicting demands of the company, supervisors and customers as well [26].

## **2.4 Work Intensification**

[22] Describes work intensification as the situation where employees are asked to carry out their work in hurry or they have to tackle high amounts of work, or employees may have to face rigid deadlines. Work intensification leads to a considerable amount of stress. To meet the excessive demands in certain functional areas, employees have no other option but to work under intensive pressure for quality works, and are asked to carry out the work more than their mental and physical potential that make them more restless hampering their health and performance [3].

## **2.5 Relationships with Colleagues**

[2] Considers it as an interpersonal relationship which is governed by personality traits and environment-individual-interaction that results in cultural and social differences as a consequence of poor relationship with colleagues. Low social support from the colleagues and serious checks by the superiors or co-workers, have marked effects on depression and result in negative relationships with employees [27]. Similarly, high level of demands and low skills of the employees lead to the elimination by colleagues [28].

## **2.6 Working Conditions**

Stressful working conditions cause health problems and risk of injuries that may be a result of individual or situational factors [10]. Unhealthy working conditions have a direct bearing on the mental and physical health of the employees and they may quit the job.

## **2.7 Bullying and Harassment**

Workplace bullying, usually unseen and ignored, is a menacing practice faced by countless workers at workplace which affects not only physical and mental health but also the society and family and it also generates the risk of losing job productivity and overall workforce self-esteem [14]. The authors explained that common psychological effects including stress,

depression, mood swings, loss of sleep, feelings of shame, embarrassment, guilt and low self-esteem as consequences of bullying and harassment.

## 2.8 Work Performance

[10] Discussed tiredness and psychological disorders as the effects of stress on employees' work performance. Furthermore, job burnout, risk for workplace injury, mental disorders, weak cognitive functioning and improper attention are the consequences behind this. All the aforesaid factors cause low work performance which in return generates low productivity, high absenteeism, high turnover and high recruitment and training costs for the company [29].

The above description of stress, its components, causes, and impacts lead to a theoretical framework for the purpose of current study in the way that work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance build the overall structure of stress of the cell phone industry in Pakistan. Before winding up this theoretical foundation of the study, an important aspect of stress is its impact on the loyalty of the employee with the organization. A stress free and more satisfied employee would be more loyal to the company as stress and loyalty have inverse relationship i.e. the lower the level of stress, the higher would be the degree of loyalty of the employee with the organization [30, 31].

The above mentioned situation of stress in the fast growing cell phone industry is very significant as the future of developing societies is attached with this industry. The work stress has a direct bearing on the performance of employees of cellular companies and the situation needs to be investigated in Pakistani frames. To be more concise, the study answers the following questions:

1. What is the stress level of employees of Pakistani cellular companies in terms of work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance?
2. Is there any difference in the stress level of employees of Pakistani cellular companies in terms of work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance?
3. Is there any difference in the stress level of employees of Pakistani cellular companies in terms of in terms of independent variables?

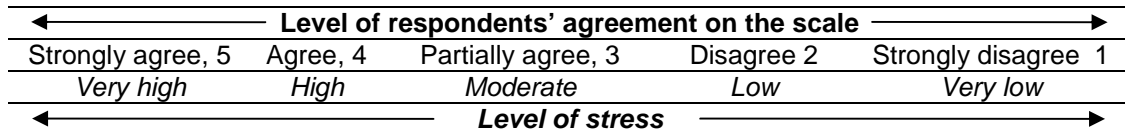
## 3. METHODOLOGY

The main purpose of this study was to investigate the stress level of employees of cellular companies. Three out of five cellular companies in Lahore were selected. A sample of 315 employees of these companies based on the stratified random sampling technique [32, 33] was taken as given in Table 1.

**Table 1. 40% stratified random sample**

	Warid	Telenor	Ufone	Total
Population	277 (35.20%)	294 (37.40%)	216 (27.40%)	787 (100%)
Sample	110.8=111 (35.20%)	117.6=118 (37.40%)	86.4=86 (27.40%)	314.8=315 (100%)

A questionnaire adapted from [1] consisting of 36 items (i.e. 3 items covered demographical information while 32 were stress variables and 1 item measured employees' loyalty---added to the original scale) was used which was found reliable at 0.980 Cronbach's alpha. Responses were quantified using a Likert type scale as strongly agree, 5; agree, 4; partially agree, 3; disagree 2; and strongly disagree, 1 corresponding with a very high, high, moderate, low and very low level of work stress [34, 33] as depicted in Fig. 1 below.



**Fig. 1. Respondents' agreement VS level of stress**

Frequencies, means, standard deviations, *t*-values, and correlations were calculated. Mean scores above 3 were taken as representing a high level of stress whereas mean scores below 3 were taken as representing a low level of stress among the employees of cellular companies [32,35,33]. One sample *t*-test, independent samples *t*-test, and one-way ANOVA were employed for significance and variance analysis. Correlations were calculated for establishing relationship within the sub-scales and with sub-scales and total scale.

#### **4. RESULT**

The demographics of the respondents, Table 2, indicate that males (68.25%) were in majority. The company analysis also supports this trend. However, the female percentage (31.75%) indicates an encouraging trend of female penetration in this industry. Employees other than assistant managers and executive officers (81.3%), and those with graduation degrees (62.22%), were found in majority. At a 100% response rate, the highest sample contribution (37.5%) came from Telenor.

The correlations, Table 3, between sub-scales are weaker as compared with their correlation with the total scale used for measuring stress pointing out the significance of these sub-scales which is further testified by their alpha-values (above 0.6) as given in Table 4 [35,33].

One sample statistics, Table 4, indicate that the level of stress (2.905) of the employees of cell phone industry moves from low-to-moderate. The sub-scale analysis reveals that level of stress against 'role ambiguity' (3.060) is the highest whereas that in case of 'relationships with colleagues' (2.721) is the lowest. The level of stress related to 'work related stress', 'working conditions', 'role conflict' and 'work intensification' is almost same below the 'role ambiguity' and the level of stress related to 'work performance' and 'bullying and harassment' is almost same above the lowest sub-scale.

Table 2. Demographics of the respondents

Variables	Categories	Warid		Telenor		Ufone		Total	
		N	%	N	%	N	%	N	%
Gender	Male	81	73	70	59	64	74	215	68.25
	Female	30	27	48	41	22	26	100	31.75
	Total	111	100	118	100	86	100	315	100
Designation	Assistant managers	5	4.5	5	4.2	10	12	20	6.3
	Executive officers	11	9.9	11	9.3	17	20	39	12.4
	Others	95	85.6	102	86	59	69	256	81.3
	Total	111	100	118	100	86	100	315	100
Qualification	Masters	21	18.9	42	36	34	40	97	30.79
	Graduates	74	66.7	76	64	46	54	196	62.22
	Inter	16	14.4	0	0	6	7	22	6.98
	Total	111	100	118	100	86	100	315	100

Table 3. Correlation matrix of scale and sub-scales

Sub-scales	Role ambiguity	Role conflict	Work intensification	Relationships with colleague	Working conditions	Bullying and harassment	Work performance	Stress (Total scale)
Work related stress	.785(**)	.711(**)	.711(**)	.636(**)	.665(**)	.690(**)	.726(**)	.845(**)
Role ambiguity		.768(**)	.768(**)	.726(**)	.720(**)	.732(**)	.730(**)	.873(**)
Role conflict			.732(**)	.738(**)	.745(**)	.761(**)	.794(**)	.901(**)
Work intensification				.738(**)	.745(**)	.761(**)	.794(**)	.901(**)
Relationships with colleague					.671(**)	.793(**)	.720(**)	.840(**)
Working conditions						.726(**)	.791(**)	.862(**)
Bullying and harassment							.789(**)	.866(**)
Work performance								.908(**)

\*\*Correlation is significant at the 0.01 level (2-tailed).

**Table 4. Alpha-values and one sample statistics for scale and sub-scales**

Scale/sub-scales	Alpha	Mean	SD	df	t-value
Total scale (stress)	0.980	2.905	1.124	314	45.871*
Role ambiguity	0.888	3.060	1.249	314	43.486*
Work related stress	0.901	2.991	1.250	314	42.446*
Working conditions	0.879	2.981	1.259	314	42.016*
Role conflict	0.849	2.968	1.286	314	40.950*
Work intensification	0.911	2.968	1.286	314	40.950*
Work performance	0.933	2.883	1.331	314	38.424*
Bullying and harassment	0.918	2.775	1.451	314	33.941*
Relationships with colleague	0.927	2.721	1.407	314	34.324*

\* $P = 0.05$ 

Tukey's honestly significant difference test in one-way ANOVA reveals a significant difference of opinion among the respondents regarding sub-scales as given in Table 5.

Table 5 indicates the employees of Warid are under the highest level of stress, for 50% sub-scales against the employees of Ufone and for all the sub-scales against the employees of Telenor who expressed the lowest level of stress in almost all of the sub-scales. Table 6, however, shows male employees reflecting a significant higher level of stress in all of the sub-scales as compared with females and company-split of gender analysis also provides the similar results.

**Table 5. One-way ANOVA with Tukey's HSD for multiple comparisons of stress level for sub-scales in terms of companies**

Dependent variable	Respondents (I)	Mean difference (I-J)	
		respondents (J)	
		Telenor	Ufone
Work related stress	Warid	1.704 (*)	.381(*)
	Telenor		-1.323(*)
Role ambiguity	Warid	1.887 (*)	.5607(*)
	Telenor		-1.327(*)
Role conflict	Warid	1.998(*)	0.295
	Telenor		-1.703(*)
Work intensification	Warid	1.998(*)	0.295
	Telenor		-1.703(*)
Relationships with colleague	Warid	1.926 (*)	.624(*)
	Telenor		-1.302(*)
Working conditions	Warid	1.859 (*)	0.082
	Telenor		-1.777(*)
Bullying and harassment	Warid	2.216 (*)	.835(*)
	Telenor		-1.381(*)
Work performance	Warid	2.029 (*)	0.083
	Telenor		-1.946(*)

\*The mean difference is significant at the .05 level.



**Table 6. Independent samples t-test for multiple comparisons of stress level for sub-scales in terms of gender**

	Gender	N	Mean	SD	t-value	Sig
Work related stress	Male	215	3.205	1.209	4.598	0.000
	Female	100	2.530	1.218		
Role ambiguity	Male	215	3.237	1.221	3.762	0.000
	Female	100	2.680	1.230		
Role conflict	Male	215	3.130	1.235	3.329	0.001
	Female	100	2.620	1.332		
Work intensification	Male	215	3.130	1.235	3.329	0.001
	Female	100	2.620	1.332		
Relationships with colleague	Male	215	2.837	1.426	2.169	0.031
	Female	100	2.470	1.337		
Working conditions	Male	215	3.209	1.230	4.888	0.000
	Female	100	2.490	1.185		
Bullying and harassment	Male	215	2.944	1.449	3.083	0.002
	Female	100	2.410	1.393		
Work performance	Male	215	3.023	1.284	2.78	0.006
	Female	100	2.580	1.387		

In response to the last question, do you want to continue this job?, 97.5% respondents said yes and only 2.5 % said no.

## 5. DISCUSSION

The demographics of the respondents have identified males as the majority section (68.25%) in all the sample telecom companies. However, the female contribution in the sample (31.75%) highlights an encouraging trend of female infiltration in this industry. One possible cause of this tendency, similar to the banking sector [35] could be the increased female induction in higher education sector [36] that serves as a nursery for business entrepreneur [34]. This argument also gets strength from qualification and designation analysis where 62.22% of the respondents were graduates and 81.3% employees were those other than assistant managers and executive officers, the fresh university graduates. The correlations between sub-scales are weaker as compared with their correlation with the total scale and alpha-values of these sub-scales are above 0.6 establishing their significance [35, 33] and the worth of predictions to be made on the basis of their analysis.

The current study pursued three basic questions of which the first was, "what is the stress level of employees of Pakistani cellular companies in terms of work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance? The Pakistani cell phone industry, as pointed out by the respondents (2.905), represents a low-to-moderate level of stress among the employees in terms of work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance, as per criterion laid down for the purpose of current study. This finding is close to the work of [6,7,17,9] who reported a high level of stress at call centers. The level of stress in cell phone industry is not high therefore majority of respondents are satisfied with their current jobs as is evident from the response against the last question of the scale where 97.5% of the respondents wished to continue their current job despite the problematic job attributes.

The second research question was, “is there any difference in the stress level of employees of Pakistani cellular companies in terms of work-related stress, role ambiguity, role conflict, work intensification, relationships with colleagues, working conditions, bullying and harassment and work performance?” The sub-scale analysis highlights the level of stress against ‘role ambiguity’ (3.060) as the highest one and that in case of ‘relationships with colleagues’ (2.721), as the lowest. It means that employees of cell phone companies are facing role ambiguity at a considerable level of stress. One possible cause of this move could be the absence of clear job descriptions and job specifications that cause a considerable level of stress [1,13]. The low level of stress against relationships with colleagues may be result of a desirable citizenship behavior of the respondents contrary to the findings of [34]. The level of stress related to ‘work related stress’, ‘working conditions’, ‘role conflict’, and ‘work intensification’ is almost same below the ‘role ambiguity’ but higher than the level of stress related to ‘work performance’ and ‘bullying and harassment’ which are almost same above the lowest sub-scale. Thus, the total stress picture of the cellular companies reveals that the situation is better regarding all the sub-scales except the role ambiguity that needs improvement.

The third research question was, “is there any difference in the stress level of employees of Pakistani cellular companies in terms of independent variables?” The post hoc analysis reveals a significant difference of opinion among the respondents regarding sub-scales where employees of Warid are under the highest level of stress. It means that Warid employees are facing the worst job attributes as compared with Ufone and Telenor. By February 2012, Warid employees were serving the needs of only 14.5million customers out of total 116million clients, the lowest in the country [37]. But the situation may be the result of deficient management practices at the company resulting out of the 70:30 partnership of Warid Telecom and SingTel [37]. Ufone with 22.4million customers comes at the middle position reflecting a better job situation as compared with Warid Telecom against 50% sub-scales but an adverse one as compared with the employees of Telenor serving 28.8million customers against all the sub-scales. The findings indicate the lowest level of stress expressed by the employees of Telenor with the highest sample contribution (37.5%) that reflects a better strategic managerial approach at Telenor as compared with the other two companies in all of the sub-scales.

At the end, the overall gender analysis shows male employees reflecting a significant higher level of stress in all of the sub-scales as compared with females and company-split of gender analysis also provides the similar results. One possible reason of this trend could be the higher level of satisfaction of the female employees reflecting their compromise with the prevailing job market conditions.

Thus, the findings of the current study have answered the research questions achieving the objectives of investigating the stress level of employees of cellular companies.

## **6. CONCLUSION AND RECOMMENDATIONS**

The Pakistani cell phone industry exhibits the male dominance in their employees despite the growing female participation in this industry. Majority of the employees of cellular companies are graduates and those other than assistant managers and executives.

The alpha value of the scale used for the study and correlations and alpha-values for the sub-scales established their significance and the worth of predictions made on the basis of their analysis.

The overall level of stress of the employees of cell phone industry is low-to-moderate and employees are satisfied with their jobs and their absolute majority is willing to carry on their current jobs. However, sub-scale analysis reveals that level of stress against 'role ambiguity' is the highest and that of 'relationships with colleagues', is the lowest. The level of stress against 'work related stress', 'working conditions', 'role conflict' and 'work intensification' sub-scales is almost same below the 'role ambiguity' and the level of stress related to 'work performance' and 'bullying and harassment' is almost same above the lowest sub-scale.

The employees of Warid are under the highest level of stress, for 50% sub-scales against the employees of Ufone and for all the sub-scales against the employees of Telenor who expressed the lowest level of stress in almost all of the sub-scales. Male employees reflecting a significant higher level of stress in all of the sub-scales as compared with females and company-split of gender analysis also provides the similar results.

The study suggested cell phone companies to address the 'role ambiguity' issue of their employees through making the job descriptions and job specifications clear. The Warid Telecom is specifically suggested to help employees enhance their motivation level by reducing their job stress which would enhance the employee productivity in return.

## **COMPETING INTERESTS**

Authors have declared that no competing interests exist.

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