

A social work study on detecting organizational and job related factors creating stress: A case study of hydro power employees

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ABSTRACT

The study investigates different factors influencing people to have more stress in a hydropower unit located in city of Esfahan, Iran. Since there were only 81 people working for customer service section of this company and the proposed study tries to focus only on this part of the firm we have decided to distribute questionnaires among all of them. The questionnaire consists of two parts, in the first part; we gather all private information such as age, gender, education, job experience, etc. through seven important questions. In the second part of the survey, there are 66 questions, which include all the important factors influencing employees' stress. Cronbach alpha is calculated as 0.946, which is well above the minimum acceptable level. The results of our ANOVA tests shows that among different factors, difficulty of working condition as well as work pressure are two most important factors increasing stress among employees. The other findings indicate that there is not a significant difference on work stress among different groups of employees in terms of their job title, educational level, employment type and gender ($P > 0.05$). The other finding indicates that there is a meaningful difference between different groups of people with various ages, marital status and job experience ($P > 0.05$).

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1. Introduction

Stress solely can have harmful influences on working conditions and in many cases; people may leave work place solely because of the existence of stress in working environment. Stress may be created by many factors such as competition, work pressure, etc. Understanding the nature and root of stress in organizations helps management teams remove most important ones and reduce the impact of all factors by providing different alternatives (Çekmecelioğlu & Günsel, 2011). During the past few decades, there have been tremendous efforts on learning how it is possible to reduce stress among employees (Bassett et al., 1987; Law et al., 1995).

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Gupta and Beehr (1979) are believed the first people who investigated the relationship between job stress and employee behaviors. They studied the relationship between four job stresses including role ambiguity, underutilization of skills, role overload and resource inadequacy and two employee withdrawal behaviors including absenteeism and turnover. They also investigated joint prediction of employee withdrawal because of job stress and some selected background characteristics. They collected the necessary information from 651 employees in five different firms through personal interviews and company records. Their analysis revealed that job stress was associated with employee withdrawal behaviors. They also concluded that prediction of subsequent behaviors was stronger than prediction of prior behaviors, and explained that the predictive power of job stress and background variables taken together was, at least, as powerful as the predictive power of background variables alone.

Smith et al. (1992) examined critical job design elements, which could impact worker stress responses in an electronic monitoring context. A questionnaire survey of employees in telecommunications companies representative of each region in the United States surveyed job stress in directory assistance, service representative and clerical jobs with specific emphasis on the influence of electronic monitoring of job performance, satisfaction and employee health. The results indicated that employees who had their performance electronically monitored perceived their working conditions as more stressful, and reported higher levels of job boredom, psychological tension, anxiety, depression, anger, health complaints and fatigue.

Slate and Vogel (1997) performed another study on the perceived atmosphere for participation in correctional decision making and its impact on employee stress and thoughts about quitting. The study concentrated on the perceptions of correctional officers influencing their participation in decision-making and the relationship between physical stress, organizational stress and thoughts about leaving the job. The survey was performed among 486 employees from seven correctional institutions in the Southeast United States. The results of the implementation of structural model revealed that showed that as employee participation increased, physical and occupational stress decreased. Thoughts about quitting were related to higher levels of occupational stress, physical stress and the perception of a negative atmosphere for participation.

de Ruyter et al. (2001) investigated the role of stress in call centers in terms of performance or job satisfaction. They surveyed which forms of leadership styles and empowerment decrease role stress and how this subsequently influences job satisfaction, performance, organizational commitment and turnover intentions. They reported that specifically the autonomy dimension of empowerment had a role-stress-reducing impact. Interesting substantive direct positive impacts of empowerment competence and leadership consideration on job satisfaction were also considered. Job satisfaction was found to be conducive to job performance. Besides, the study revealed that job satisfaction could reduce turnover intentions, directly or indirectly via organizational commitment.

Vearing and Mak (2007) performed an empirical investigation on the joint impacts of the big five personality factors and an extended model of work stress based on study on effort–reward imbalance (ERI), on employees' depressive symptoms. They reported an association between neuroticism (N) and OVC. Regression analysis of depressive symptoms disclosed a medium influence of N, followed by small effects of workplace social support, conscientiousness (C), and ERI ratio, accounting for 44% of the variance in depressive symptoms.

Kim et al. (2009) investigated the moderating roles of organization level and gender in the relationship between job satisfaction and role stress for hotel employees. The study includes measures of job satisfaction, role stress in terms of both conflict and ambiguity and demographic data was implemented to collect information from hotel employees in Republic of Korea. The results indicated that the impact of role stress on job satisfaction is substantially stronger for female employees and supervisory employees than male and non-supervisory workers.

Saastamoinen et al. (2009) examined the own and independent associations of job strain, workplace bullying, organizational justice and work-home interface with pain. Among women, all psychosocial factors were related to both acute and chronic pain when adjusted for confounders only. Among men, when adjusted for confounders only, all psychosocial factors were associated with acute and chronic pain, except for family-to-work conflicts among those with acute pain.

Chiang et al. (2010) studied the moderating impacts of job control and work-life balance practices on employee stress in the hotel and catering industry. The results of this survey explained that high job demands coupled with low job control and the availability of work-life balance practices leads in a higher level of stress.

Tabatabaei et al. (2011) studied the general health, stress associated to the work and job satisfaction of the Hormozgan Cement Factory employees. The study was semi-experimental with the pre-test and post-test without control group and to improve mental health of employees, psychological trainings and motivational models were executed. The results demonstrated that general health and job satisfaction of employees were higher than average ($\alpha = 0.01$) but their job stress was lower than average ($\alpha = 0.01$). After intervention, results disclosed improvement of job stress and such trainings and models recommended for improvement of employees stress.

Coelho et al. (2011) studied the mediating impacts of role stress and intrinsic motivation using contextual factors and the creativity of frontline employees. They reported that the creativity of frontline service employees is associated positively with role conflict and negatively with role ambiguity.

The present study investigates to find out the important factors influencing job stress in one of Iranian hydro facilities. The structure of this study first explains characteristics of all people who participated in our survey.

2. The proposed study

The study investigates different factors influencing people to have more stress in a hydropower unit located in city of Esfahan, Iran. Since there were only 81 people working for customer service section of this company and the proposed study tries to focus only on this part of the firm we have decided to distribute questionnaires among all of them. The questionnaire consists of two parts, in the first part, we gather all private information such as age, gender, education, job experience, etc. through seven important questions. In the second part of the survey, there are 52 questions, which include all the important factors influencing employees' stress.

2.1. Personal characteristics of surveyed people

As we explained, there are 81 people participated in our survey. In terms of their gender, there were 73 male and 8 female so approximately 90% of the surveyed people are from man. In terms of their educational background, 10 people had only 9 years of educational background, 48 people finished high school and 23 people had colleague education. While 15 people were single, 66 people were married. In terms of employment type, 21 people were permanent employee, 11 people maintained a five-year contract, 44 people had one-year contract and only 5 employee were on temporary contract. In terms of job experience, 20 people aged between 20-29, 36 people aged between 30-39, 15 people were between 40 to 49 and finally, 10 employees were over 50 years of age. In terms of job experience, 45 people has from one to ten years of job experience, 15 people had between 11 to 20 years of job experiences and 21 people has between 21 to 30 years of job experience. Finally, 23 people were regular employee, 14 were workers, 30 people were working in customer service and 14 people were hired as accountants.

2.2. Questionnaire

Table 1 shows details of all questions associated with the proposed study of this paper.

Table 1**Details of survey**

Q	Title	Mean	Std. dev	Std. Err.
1	The feeling that payment does not cover my expenses.	3.84	1.156	0.128
2	Firm does not pay enough attention to employee's accommodation.	4.28	1.186	0.132
3	Firm does not pay enough attention to employee's transportation.	3.12	1.426	0.158
4	There are significant noises in the organization.	3.57	1.369	0.152
5	Management does not care about job experience.	3.65	1.485	0.165
6	There are not sufficient equipments.	3.15	1.236	0.137
7	The employees are not sufficient to be responsive to customers.	3.22	1.423	0.158
8	Temperature is not properly adjusted.	2.88	1.298	0.144
9	There is not sufficient visibility.	2.53	1.314	0.146
10	There is a significant amount of work to do.	3.80	1.317	0.146
11	There are not supportive entertainment programs.	3.99	1.220	0.136
12	There is not enough respect towards employees.	3.75	1.318	0.146
13	There is fear that people may lose their jobs.	3.65	1.550	0.172
14	There are too much expectations from the workers.	3.09	1.343	0.149
15	The customers are mostly aggressive.	3.21	1.252	0.139
16	There is no support for hard working conditions.	3.22	1.508	0.168
17	There are discriminations among people with various types of employment.	4.05	1.350	0.150
18	There are discriminations among people with various types of job experiences.	3.47	1.361	0.151
19	The feeling that employee must always be a good voice of customer.	2.10	1.168	0.130
20	Special circumstances of work place.	2.51	1.484	0.165
21	There is not over pay for overtime work.	3.32	1.540	0.171
22	There is not enough time to finish all works on time.	3.16	1.373	0.153
23	Displacement of employees happens without asking the opinions of employees.	3.21	1.618	0.180
24	Management always looks for shortcoming and do not pay to other issues.	3.69	1.190	0.132
25	There are not enough hardware and software packages.	3.26	1.340	0.149
26	The people with more job experience work less.	3.19	1.476	0.164
27	The people with less job experience work less.	2.77	1.425	0.158
28	The employees are not participated in decision-making procedures.	2.89	1.396	0.155
29	Promotion policy is not good.	3.09	1.606	0.178
30	There is no trust among employees.	2.94	1.363	0.151
31	Connections work better than regulations.	3.48	1.333	0.148
32	Customers' complaints play important role.	2.95	1.254	0.139
33	Work duties are not clear for employees.	3.21	1.429	0.159
34	The management is making their decision selectively.	2.88	1.354	0.150
35	Limited number of employees performs a significant amount of work.	3.38	1.480	0.164
36	It is not possible to go to vacations.	3.16	1.529	0.170
37	Management does not care about employees' living and personal affairs.	3.86	1.181	0.131
38	The loans are sufficient.	4.05	1.331	0.148
39	There is poor management system.	3.41	1.358	0.151
40	All other problems are transferred to customers.	3.46	1.423	0.158
41	The rules and regulations have some flaws.	3.20	1.336	0.148
42	There is no promotion or punishment plan.	3.54	1.314	0.146
43	The working condition is boring.	2.93	1.498	0.166
44	Overtime work is insufficient.	3.69	1.402	0.156
45	The feedbacks from experienced people are not used.	3.30	1.327	0.147
46	There are extra job replacements.	2.49	1.574	0.175
47	There are just too much expectations from top management.	3.07	1.253	0.139
48	Employees are not sufficiently aware of the rules and regulations.	2.94	1.258	0.140
49	There are just too much attentions on degrees instead of experiences.	3.42	1.350	0.150
50	There is just too much discrimination among employees.	3.44	1.405	0.156
51	Stresses are transferred from other sections to employees.	3.35	1.459	0.169
52	There is just too much attention to customer care.	3.35	1.429	0.162
53	There is fear on making mistake due to high volume of work.	3.14	1.262	0.140
54	There are several issues associated with rate of charges.	2.52	1.256	0.140
55	There are eavesdropping among some employees.	3.38	1.578	0.175
56	Employees cannot use their vocational events due to high volume work.	3.73	1.225	0.136
57	There are just too much unreachable deadlines.	3.62	1.225	0.136
58	Employees are not feeling good for outsourcing activities.	3.77	1.519	0.169
59	The works are not performed properly.	3.46	1.285	0.143
60	Employees are asked to perform works while they are qualified for.	3.54	1.215	0.135
61	Works are not assigned fairly among employees.	3.77	1.186	0.132
62	There is no justice for giving awards.	4.15	1.236	0.137
63	There is no replacement for employees when some go on vacation.	3.58	1.386	0.154
64	There is no friendship relationship among employees.	2.72	1.316	0.146
65	There is feedback for customers' complaints.	2.73	1.265	0.141
66	Customers are not aware of rates and regulations.	3.28	1.630	0.181

As we can observe from the results of Table 1, the mean of responses were varied from 2.10 to 4.28. Table 2 shows details of our analysis for descriptive questions.

Table 2
Descriptive questions

Q	Title	Mean	Std. dev	Std. Err.
1	Pressure between management and employee	3.183	0.819	0.091
2	Job conditions and difficulties	3.472	0.877	0.097
3	Unsuitable work conditions	3.098	1.102	0.122
4	The fear from working conditions	3.345	0.890	0.098
5	Summary	3.374	0.729	0.081

3. Results

In this section, we present details of our statistical tests on the questionnaire of this survey. We have performed ANOVA test to examine the impact of different factors such as groups of jobs, ages, etc. on influencing stress among employees.

3.1. The impact of stress on different groups of jobs

Table 3 shows details of our ANOVA test to study the impact of stress among different groups of jobs.

Table 3
The results of ANOVA test on difference between various groups of jobs

	Source of change	Sum of Squares	df	Mean of squares	F	P-value
Pressure between management and employee	Between groups	3.590	3	1.197		
	Inside group	44.576	78	0.686	1.745	0.167
	Total	48.167	81	-		
Job conditions and difficulties	Between groups	3.422	3	1.141		
	Inside group	50.03	78	0.770	1.482	0.228
	Total	53.452	81	-		
Unsuitable work conditions	Between groups	6.950	3	2.317		
	Inside group	73.420	78	1.130	2.051	0.115
	Total	80.370	81	-		
The fear from working conditions	Between groups	2.725	3	0.908		
	Inside group	51.744	78	0.796	1.141	0.339
	Total	54.468	81	-		
Total	Between groups	3.909	3	1.303		
	Inside group	33.012	78	0.508	2.566	0.062
	Total	36.921	81	-		

As we can observe from the results of Table 3, there is no meaningful relationship between each group. Therefore, we can conclude that stress is not any different among various groups of jobs.

3.2. The impact of stress on different groups of ages

The second question of our survey to know whether there is any relationship between stresses in different groups of ages. Table 4 shows details of our ANOVA test to study the impact of stress among different groups of ages. As we can observe from the results of Table 4, there is meaningful relationship on having pressure between management and employee ($P > 0.05$), the fear from working conditions. However, there is no meaningful relationship on job conditions and difficulties, unsuitable work condition. In summary, we can conclude that stress has some influences among various groups of ages.

Table 4

The results of ANOVA test on difference between various groups of ages

	Source of change	Sum of Squares	df	Mean of squares	F	P-value
Pressure between management and employee	Between groups	4.035	3	1.345	2.321	
	Inside group	42.314	73	0.580		0.042
	Total	46.349	76			
Job conditions and difficulties	Between groups	1.642	3	0.547	0.776	0.511
	Inside group	51.498	73	0.705		
	Total	53.140	76			
Unsuitable work conditions	Between groups	1.798	3	0.599	0.514	0.674
	Inside group	85.066	73	1.165		
	Total	86.864	76			
The fear from working conditions	Between groups	9.172	3	3.057	4.515	0.06
	Inside group	49.430	73	0.677		
	Total	58.602	76			
Total	Between groups	2.428	3	0.809	2.780	0.049
	Inside group	33.191	73	0.455		
	Total	35.619	76			

3.3. The impact of stress on different groups with various educational backgrounds

The third question of our survey is to know whether there is any relationship between stresses in different educational groups. Table 5 shows details of our ANOVA test to study the impact of stress among people with various educational backgrounds.

Table 5

The results of ANOVA test between various groups with different educational backgrounds

	Source of change	Sum of Squares	df	Mean of squares	F	P-value
Pressure between management and employee	Between groups	0.195	2	0.097	0.148	0.863
	Inside group	49.449	75	0.659		
	Total	49.644	77			
Job conditions and difficulties	Between groups	0.689	2	0.345	0.444	0.643
	Inside group	58.139	75	0.775		
	Total	58.828	77			
Unsuitable work conditions	Between groups	3.214	2	1.607	1.376	0.259
	Inside group	87.610	75	1.168		
	Total	90.824	77			
The fear from working conditions	Between groups	3.796	2	1.898	2.538	0.086
	Inside group	56.088	75	0.748		
	Total	59.884	77			
Total	Between groups	1.068	2	0.534	1.059	0.352
	Inside group	37.816	75	0.504		
	Total	38.883	77			

As we can observe from the results of Table 5, there is no meaningful relationship between each group ($P > 0.05$). Therefore, we can conclude that stress is not any different among various groups with various educational backgrounds.

3.4. The impact of stress on different groups with various employment statuses

The fourth question of our survey is to know whether there is any relationship between stresses in various educational groups. Table 6 shows details of our ANOVA test to study the impact of stress among people with various employment statuses. As we can observe from the results of Table 6, there is no meaningful relationship between each group ($P > 0.05$). Therefore, we can conclude that stress is not any different among various groups with various employment statuses.

Table 6

The results of ANOVA test between various groups with different employment statuses

	Source of change	Sum of Squares	df	Mean of squares	F	P-value
Pressure between management and employee	Between groups	0.636	3	0.212	0.336	0.799
	Inside group	45.424	72	0.631		
	Total	46.060	75			
Job conditions and difficulties	Between groups	0.638	3	0.213	0.310	0.818
	Inside group	49.320	72	0.658		
	Total	49.958	75			
Unsuitable work conditions	Between groups	1.396	3	0.465	0.390	0.760
	Inside group	85.772	72	1.191		
	Total	87.168	75			
The fear from working conditions	Between groups	1.263	3	0.421	0.542	0.655
	Inside group	55.900	72	0.766		
	Total	57.163	75			
Total	Between groups	0.119	3	0.040	0.083	0.969
	Inside group	34.311	72	0.477		
	Total	34.430	75			

3.5. The impact of stress on different groups with various working experiences

The fifth question of our survey is to know whether there is any relationship between stresses in various working experiences. Table 7 shows details of our ANOVA test to study the impact of stress among people with various job experiences.

Table 7

The results of ANOVA test between various groups with different job experiences

	Source of change	Sum of Squares	df	Mean of squares	F	P-value
Pressure between management and employee	Between groups	0.636	3	0.212	0.336	0.799
	Inside group	45.424	72	0.631		
	Total	46.060	75			
Job conditions and difficulties	Between groups	0.638	3	0.213	0.310	0.818
	Inside group	49.320	72	0.658		
	Total	49.958	75			
Unsuitable work conditions	Between groups	1.396	3	0.465	0.390	0.760
	Inside group	85.772	72	1.191		
	Total	87.168	75			
The fear from working conditions	Between groups	1.263	3	0.421	0.542	0.655
	Inside group	55.900	72	0.766		
	Total	57.163	75			
Total	Between groups	0.119	3	0.040	0.083	0.969
	Inside group	34.311	72	0.477		
	Total	34.430	75			

As we can observe from the results of Table 6, there is no meaningful relationship between each group ($P > 0.05$). Therefore, we can conclude that stress is not any different among various groups with various job experiences.

3.6. The impact of stress on different groups with different genders

The sixth question of our survey is to know whether there is any relationship between stresses in people with different genders. Bases on the results we obtained, we can conclude that gender does not play important role on creating stress among people.

4. Conclusion

In this paper, we have presented an empirical study to investigate different factors influencing people to have more stress in a hydropower unit located in city of Esfahan, Iran. Since there were only 81 people working for customer service section of this company and the proposed study tries to focus only on this part of the firm we have decided to distribute questionnaires among all of them. The results of our ANOVA tests have shown that among different factors, difficulty of working condition as well as work pressure are two most important factors increasing stress among employees. The other findings indicate that there was not a significant difference on work stress among different groups of employees in terms of their job title, educational level, employment type and gender ($P>0.05$). The other finding indicates that there was a meaningful difference between different groups of people with various ages, marital status and job experience ($P>0.05$).

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