

## A social work study on measuring the impact of gender and marital status on stress: A case study of hydro-power employees

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### ABSTRACT

The study performs an empirical survey to measure the impact of stress among people with various gender and marital status in a hydropower unit located in city of Esfahan, Iran. The study performs the survey among all 81 people who were working for customer service section of this company and 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 were 66 questions, which included all the relevant factors impacting employees' stress. We implement two Levin and t-student tests to see whether gender or marital status has any meaningful influences on creating stress among people. The results indicate that gender has no meaningful impact on creating stress among employees who worked for this hydro plant except difficulty of job conditions. The other findings of this paper is that stress posed from management team had different impacts on employees with various marital status but there were no meaningful differences between married and single couples in terms of other factors posing stress such as unsuitable working conditions, fear of job stability or difficulty of job conditions.

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## 1. Introduction

Stress is one of preventive factors on employee's efficiency and it can have harmful effects on people's healthcare and personal affairs. Stress can be posed from different working conditions, it may often come from hard working conditions or it may be posed from management teams or employees' supervisors, etc. One primary concern in such circumstances is whether stress has equal impact on women and men or not (Evolahti et al., 2006). It may also have different level of impact between married and single people. Kim et al. (2009) surveyed the moderating roles of organization level and gender in the relationship between job satisfaction and role stress among employees who

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worked for hotel industry. The study measured job satisfaction, role stress in terms of both conflict and ambiguity and demographic information for hotel employees in Republic of Korea. They reported that the effect of role stress on job satisfaction was enormously stronger for female employees and supervisory employees than male and non-supervisory workers.

Literally, there are many factors, which create stress among workers such as the lack of job security, stress created on behalf of management team, etc. Nevertheless, understanding the nature and root of stress in organizations helps us reduce its influence using appropriate methods (Watson et al., 2011; Çekmecelioğlu & Günsel, 2011). In fact, for many years, there were significant efforts on learning how it is possible to reduce stress among employees (Bassett et al., 1987; Law et al., 1995).

Vearing and Mak (2007) provided another investigation on the joint impact of the big five personality factors and a new 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.

Saastamoinen et al. (2009) examined the own and independent relationships of job strain, workplace bullying, organizational justice and work–home interface with pain. Among women, all psychosocial factors were considered for 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 described 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) performed a survey on 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. They performed confirmatory factor analysis of posttraumatic stress symptoms in Brazilian primary care patients using an examination of seven alternative models. Their objective was to study whether the clusters of PTSD symptoms identified in North American and European studies could be replicated in a Brazilian sample composed of 805 primary care patients living in hillside slums. They reported that their results seemed to uphold the cross-cultural validity of the 4-factor, first-order model.

Boyas et al. (2012) explained that age, organizational factors are linked with job stress, burnout among child protection workers, and they investigated on how age influences these adverse employee outcomes. They recommended that the paths to job stress, burnout and intent to leave varied by age group. They also concluded that firms needed to establish intervention attempts on younger workers by creating various structures of support, which could help them better deal with the pressures and demands of child protection work.

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 and then reports details of our findings next.

## 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

We ask 81 employees to take part in this survey, where 73 of them were male and 8 were female. 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. Methodology

In this survey, we use two Levin and t-student tests to measure different factors influencing stress. There are 66 questions associated with the proposed study of this survey and our focus in this paper is to see the impact of gender and marital status on stress.

## 3. The results

In this section, we present details of our survey between employees who worked for this hydro generation unit in terms of gender and marital status.

### 3.1 Stress between female and male workers

We first present detailed characteristics of the people who participated in our survey and provided their responses on four types of stress in terms of their gender. As we can observe from the results of Table 1, there were 81 people filled in the questionnaires where 73 were male and the remaining 8 people were female.

**Table 1**

Descriptive characteristics of participants in terms of their genders

Sub groups	Gender	Degree of freedom		Standard deviation	Standard error
		Number	Mean		
1 Stress from management and other employees	Male	73	3.20	0.804	0.096
	Female	8	2.779	0.894	0.316
2 Difficulty in Job conditions	Male	73	3.545	0.831	0.0994
	Female	8	2.769	1.019	0.360
3 Unsuitable working conditions	Male	73	3.100	1.098	0.131
	Female	8	2.687	0.997	0.352
4 Fear of job stability	Male	73	3.368	0.915	0.109
	Female	8	3.111	0.659	0.233
Total	Male	73	3.303	0.713	0.0853
	Female	8	2.836	0.691	0.244

From the results of Table 1, we understand that, on average, men seem to have more stress on behalf of their bosses than women do. Similar results hold for the remaining three sub groups while the gap between female and male is more when we asked them about the stress created from difficulty of job, fear of job stability is the second most important item among men.

Table 2 shows details of our two Levin and t-student tests for the proposed model of this paper. From the results of t-student tests, we can realize that there is no meaningful difference between female and male on different factors creating stress ( $P > 0.05$ ). In other words, gender does not play an important role on creating stress on employees who worked for this hydro generation unit.

**Table 2**

The results of Levin test and t-student tests

Source of stress	Hypothesis assumption	Levin test		t-student			
		F	P-value	t	df	P-value	Mean-diff
Stress from management and other employees	$\sigma_1^2 = \sigma_2^2$	0.000	0.889	1.392	76	0.168	0.422
	$\sigma_1^2 \neq \sigma_2^2$	-	-	1.278	8.349	0.236	0.422
Difficulty in Job conditions	$\sigma_1^2 = \sigma_2^2$	1.115	0.294	2.444	76	0.017	0.776
	$\sigma_1^2 \neq \sigma_2^2$	-	-	2.076	8.101	0.071	0.776
Unsuitable working conditions	$\sigma_1^2 = \sigma_2^2$	0.013	0.911	1.014	76	0.314	0.412
	$\sigma_1^2 \neq \sigma_2^2$	-	-	1.096	9.057	0.301	0.412
Fear of job stability	$\sigma_1^2 = \sigma_2^2$	0.912	0.343	0.770	76	0.444	0.257
	$\sigma_1^2 \neq \sigma_2^2$	-	-	0.999	10.372	0.341	0.257
Total	$\sigma_1^2 = \sigma_2^2$	0.000	1	1.758	76	0.083	0.467
	$\sigma_1^2 \neq \sigma_2^2$	-	-	1.803	8.793	0.106	0.467

### 3.2 Stress between married and single employees

In this section, we present our investigation for the effects of marital status on having stress. We

As we can observe from the results of Table 3, there were 81 people filled in the questionnaires where 15 were single and the remaining 66 people were married. From the results of Table 3, we understand that, on average, married people seem to suffer more than single employees do in terms of their job conditions.

**Table 3**

Descriptive characteristics of participants in terms of their genders

Sub groups	Marital status	Degree of freedom		Standard deviation	Standard error
		Number	Mean		
1 Stress from management and other employees	Single	15	2.726	0.747	0.207
	Married	66	3.247	0.808	0.099
2 Difficulty in Job conditions	Single	15	3.055	1.146	0.317
	Married	66	3.542	0.813	0.100
3 Unsuitable working conditions	Single	15	2.769	1.072	0.297
	Married	66	3.121	1.095	0.134
4 Fear of job stability	Single	15	3.260	0.911	0.252
	Married	66	3.351	0.904	0.111
Total	Single	15	2.952	0.809	0.224
	Married	66	3.315	0.702	0.086

Table 4 shows details of our two Levin and t-student tests for the proposed model of this paper. From the results of t-student tests, we can realize that the meaningful difference is only associated with the first stress item, which is the stress posed from management team towards employees ( $t=-2.147$ ,  $P<0.05$ ) but there is no meaningful difference among married and single people for the remaining three items ( $P>0.05$ ).

**Table 4**

The results of Levin test and t-student tests

Source of stress	Hypothesis assumption	Levin test		t-student			
		F	P-value	t	df	P-value	Mean-diff
Stress from management and other employees	$\sigma_1^2 = \sigma_2^2$	0.046	0.831	-2.147	77	0.035	-0.520
	$\sigma_1^2 \neq \sigma_2^2$	-	-	-2.264	17.99	0.036	-0.520
Difficulty in Job conditions	$\sigma_1^2 = \sigma_2^2$	6.046	0.016	-1.837	77	0.070	-0.48
	$\sigma_1^2 \neq \sigma_2^2$	-	-	-1.460	14.47	0.166	-0.48
Unsuitable working conditions	$\sigma_1^2 = \sigma_2^2$	0.042	0.838	1.062	77	0.291	-0.351
	$\sigma_1^2 \neq \sigma_2^2$	-	-	-1.078	17.30	0.296	-0.351
Fear of job stability	$\sigma_1^2 = \sigma_2^2$	0.110	0.741	-0.329	77	0.743	-0.090
	$\sigma_1^2 \neq \sigma_2^2$	-	-	-0.327	16.99	0.748	-0.090
Total	$\sigma_1^2 = \sigma_2^2$	1.620	0.207	-1.658	77	0.101	-0.36
	$\sigma_1^2 \neq \sigma_2^2$	-	-	-1.507	15.76	0.152	-0.36

#### 4. Conclusion

In this paper, we have presented an empirical study to measure the effects of stress among people with different personal characteristics in terms of their gender and marital status in a hydropower unit located in city of Esfahan, Iran. We have used two Levin and t-student tests to see whether gender or marital status has any meaningful influences on creating stress among people. The results indicate that gender has no meaningful impact on creating stress among employees who worked for this hydro plant except difficulty of job conditions. The other findings of this paper was that stress posed from management team had different impacts on employees with various marital status but there were no meaningful differences between married and single couples in terms of other factors posing stress such as unsuitable working conditions, fear of job stability or difficulty of job conditions.

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