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## Ranking of Stress in Military Personnel in Persian Gulf

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**Abstract:** In respect of the geographic features of the Persian Gulf (warmth, humidity) and the sensitivity of the region we performed this study to determine the stress of the personnel that works there. This is a cross sectional-descriptive study. The samples of this study are 766 personnel in Persian Gulf. The sampling method was clustering. The instruments of the study were stress self made questionnaire and the Holmes and Rahe questionnaire. The mean score of samples in stress was 204. While the accepted score of Holmes and Rahe questionnaire is 100. Also 34% of samples had scores higher than 250 and 38% had scores from 100 to 250. The mean score of samples was at least double than normal range and in respect to predict of questionnaire norm the persons that have scores between 100-250, have 50% more vulnerability to Psycho-Physiological disorders.

**Key words:** Stress, military personnel, Persian Gulf

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### INTRODUCTION

There are a lot of studies that have been conducted from time to time to understand the relationship between job stress, job satisfaction and its effect on mental health. Job performance is greatly linked with job stress and job satisfaction. It has been observed that the individuals who are satisfied at their job positions perform really well whereas the individuals who are really stressed perform really bad and are always on the look out to switch jobs as job stress can result in medical ailments.

Instability of employment, rapid change of demands and intensification of work pressure are widely prevalent consequences of economic globalization and technological change (Landsbergis, 2003). Even in established sectors of industrial production, administration and services of advanced societies experiences of downsizing, mergers and outsourcing are increasingly shared by employees (Anonymous, 2004). Surveys on working conditions in Europe indicate that stressful experience recently increased in the European workforce although variations between countries and sectors are observed (Merllié, 2000). Chronic stressful experience at work can adversely affect physical and mental health. This has been documented in a large number of epidemiological studies based mainly on two complementary theoretical concepts, the demand-control model (Belkic *et al.*, 2004; Hemingway and Marmot, 1999; Schnall *et al.*, 2000) and the effort-reward imbalance model (Marmot, 2002; Van Vegchel *et al.*, 2005; Kivimäki *et al.*, 2002; Ferrie *et al.*, 2002; Westerlund *et al.*, 2004;

Kivimäki *et al.*, 2004; Godin *et al.*, 2005). The demand-control model posits that jobs characterized by high quantitative demands in combination with low decision latitude adversely affect health. The focus of the effort-reward imbalance model is put on contractual non-reciprocity where high efforts at work are not met by adequate rewards in terms of money, esteem, promotion prospects and job security.

Godin *et al.* (2005) analyzed the dynamics of stressful work experience over time, based on the effort-reward imbalance model, in relation to mental health, using longitudinal data of a large cohort. They test the hypothesis that the risks of poor mental health after one year are higher among employees who either continuously experience high job stress or who experience an increase in job stress from the first to the second measurement, compared to the remaining employees with either continuously low levels or decreasing levels of job stress over time. Both conditions, continuous exposure and incident exposure to job stress, are more likely to occur under conditions of downsizing and related macroeconomic constraints.

Concern is increasing about the adverse effects that work stress may have on health, particularly the risk of cardiovascular disease. Two models identifying stressful components of the psychosocial work environment have received particular attention: The job strain model (Karasek, 1979; Karasek and Theoral, 1990) and more recently, the effort-reward imbalance model (Siegrist, 1996; Theorell and Karasek, 1996; Schnall *et al.*, 1994; Marmot *et al.*, 1997; Cheng *et al.*, 2000).

The job strain model posits that a combination of high work demands and low job control at work, called job strain, is a health risk for employees. The few studies on cardiovascular mortality partly support the model. Alterman *et al.* (1994) showed a moderate prospective association between job strain and fatal cardiovascular disease. Other investigations have linked cardiovascular mortality to a combination of high demands, low resources and low income (Lynch *et al.*, 1997) to job control only (Steenland *et al.*, 1997) and to neither job control, work demands, nor their interaction (Suadicani *et al.*, 1993).

The effort-reward imbalance model considers the impact of labor market conditions on health in addition to the more proximal job conditions. Health risk derives from the mismatch between high efforts at work and low reward received in turn. Rewards concern money, social approval, job security and career opportunities (Bosma *et al.*, 1998; Peter *et al.*, 1998; Vrijkotte *et al.*, 1999, 2000).

Stress-related illnesses, such as burnout, are receiving increased attention among physicians (Ramirez *et al.*, 1996; Agius *et al.*, 1996; Grunfeld *et al.*, 2000; Ankoné, 1999; Gundersen, 2001). A dramatic rise in these illnesses among the employees recently prompted disability insurance companies to raise premiums by up to 30%. The negative consequences of stress pose a serious problem, not only for physicians' well-being but also for the quality of patient care (Grunfeld *et al.*, 2000; Gundersen, 2001; Firth-Cozens and Greenhalgh, 1997; Shanafelt, 2002).

Recent changes in society may be relevant to the growing incidence of stress-related diseases among medical specialists. Patients have evolved from being fully dependent to being partners in medical decision-making. They are better informed, more critical and better protected by law (Dyer, 1999). In addition, in many countries job security has diminished owing to changes in health care organizations (Sverke *et al.*, 1999; Woodward *et al.*, 1999). In recent years the balance between work and family has been liable to change as well. Family life increasingly demands time and devotion from both partners (Dumelow *et al.*, 2000). These changes may influence physicians' experience of their study.

Ramirez and colleagues (Mechteld *et al.*, 2000) found that job satisfaction among British medical specialists protected against the physical and psychological effects of long-term stress. Therefore, to design effective methods of intervention, research into both stress and satisfaction is needed.

A study was conducted to describe the experiences of job satisfaction in clinical nurses. The data was collected from three focus groups composed of 17 hospital nurses. Each focus group had an interview for an

average of two and a half hours with the guidance of researchers. The main question was how do you describe your lived experience of job satisfaction as a clinical nurse? The core category of experience of job satisfaction in clinical nurses was identified as Finding success. Supportive interpersonal relationships and environment affected this category. In the process of attaining job satisfaction through finding success, the participants were using four interactional strategies such as giving meaning, finding self-esteem, extending the horizon of life and strengthening self-capability. The dimensions of job satisfaction in clinical nurses were the sense of achievement, stability and pride.

There were a lot of researches done that were related to the effects of job stress and mental health, therefore we focused to understand the patterns and characteristics of the effects of stress among individuals of employers of Persian gulf.

## MATERIALS AND METHODS

This is a descriptive study. Our statistics embrace 766 individuals who were employees of a governmental organization in Iran. We did conventional sampling. The samples were selected from 3 regions: Bushehr, 200 person; Hormozgan 385 person; Khozestan 181 person; based on the population of each state. After sampling the questionnaire of the study was given to the individuals to complete. In this study we used two questionnaires:

**Job descriptive index:** Job Descriptive Index is a parameter to determine job satisfaction. The Job Description Index is based on work, coworkers, supervisor, pay and promotion opportunities. It is the most popular device to gauge job satisfaction. This was developed in 1969 by Pat Smith and her colleagues and this index has been used in about over 400 research publications.

The Job Descriptive Index is based on the three-point response, the three points are given for a Yes response, one point is given for a ? response and zero point is given for a No response. In this three-point response, ? response shows the dissatisfaction of a person (Cook, Hepworth, Wall and Warr, 1981).

In a study conducted by Steven Johnson, Pat Smith and Susan Tucker, the three-point format was compared with the five-point Likert scale using the same items from the JDI. The Johnson's results indicated that the three-point scale was significantly negatively skewed in the supervision and co-worker subscales and significantly positively skewed in the promotion subscale, whereas the five-point response

had normal distributions for all five subscales. However, because there were no significant differences between the three-point and five-point scales and because the three-item response format was easier to explain and easier for employees to use than the five-point scale, the authors lobbied for the continued use of the three-point scale.

Finally, the most important criticism of the JDI is that it does not follow its own conceptualization of job satisfaction. According to Pat Smith and her associates, the JDI was based on a definition that: Job satisfactions are feelings or affective responses to facets of the situation. However, noted that asking employees for descriptions of their jobs revealed more frank and less defensive responses than asking employees regarding their feelings about their jobs. Consequently, they developed the JDI to emphasize job characteristics and not personal emotions about a person's job (Smith *et al.*, 1989).

Yet, they conceptualized job satisfaction as feelings or affective responses. This contradiction certainly illustrates that the JDI is not a conceptually strong measure of job satisfaction. Consequently, this inadequate, albeit popular, measurement of the construct certainly helps explain why we know so little about the nature of job satisfaction.

**Holmes and Rahe stress inventory:** The creators of this Stress Inventory are Drs. Holmes and Rahe. They are medical researchers who have studied the connection between stressful life events and the onset of disease in more than 5,000 patients. Holmes and Rahe (1967) concluded from their research that mental and physical illness are consistently preceded by a pattern of stress from significant life changes.

Surprisingly, the life events listed in the Stress Inventory are not all negative. Many of the life changes listed would be regarded as positive to a great many people: Marriage, birth, a new job, graduation, vacation, increased social activity and more. In spite of the positive nature of these events, the body-mind tends to react with stress to anything that necessitates a change or adaptation. As a result, each of these life events is associated with some amount of stress.

Samples to take the stress inventory must think back over the past 12 to 18 months. Check off or circle any of the life events that have happened to them. Then add up the assigned point values and determine the total number of stress points.

The score 100 and below are in normal range, the score between 100-250 gives a 50-50 chance of developing an illness or emotional problems, according to the research of Drs. Holmes and Rahe. And score of 250 or more means that they will have, statistically, a 90% chance of developing a significant illness or health change.

**RESULTS AND DISCUSSION**

The age below 30 year/o have the maximum amount of persons (Table 1). The Table 2 shows the ranking of stress agents in samples and the regional problems are the first agents.

Thirty eight percent of samples have score between 101-250 and based on Holmes and Rahe's score 38% of samples have the 50% probability to Psycho-physiologic disease. And 33.8% equal to 259 persons have the 80% probability to Psycho-physiologic disease (Table 3). The Table 4 shows the high and low stress in samples grouped with some variables.

Table 1: Distribution of samples in age variable

Age group	%	Frequency
20-24 year/o	29.9	299
25-29	27.3	209
30-34	21.0	161
35-39	13.1	100
40-44	3.5	27
45 and up	2.0	15
Undefined	3.3	25
Total	100.0	766

Table 2: Ranking of stress agents in sample

Rank	Stress agents	Mean
1	Regional problems	1.94
2	Social problems	1.65
3	Job problems	1.51
4	Personal problems	1.30
5	Family problems	1.11
6	Military problems	1.09

Table 3: Amount of samples in Holmes and Rahe's score groups

Score	Frequency	%
100 and below	216	28.2
101-205	291	38.0
205 and up	259	33.8
Total	766	100.0

Table 4: High and Low stress in groups

Variable	Low stress	High stress
Region	Khuzestan	Hormozgan
Age	20-24 y/o	25-34 y/o
Employment years	5 and below	Above 5
Level of education	Guidance school	High school Diploma and upper minor
War history	Human sciences	Experimental sciences
Accommodation status	No	Yes
	Organizational	Private home and rental home

This study demonstrated the high incidence of stress in personnel that works in Persian gulf. As you can see 72% of personnel had the scores higher than normal (100) and this show that 72% of personnel are prone to Psycho-Physiological diseases. These pathologies sometimes will show as body diseases or will show as psychological behaviors like impulsivity, aggregation, depression.

This study also show that the personnel with high years of employment had more problems while we were waiting that the transition of time make the personnel more compatible with organizations but in this study we saw that the personnel that have more employment years also have more stress. This may be because the needs of personnel will increase with time but the organization cannot prepare for their needs.

Also this study shows that personnel experienced a war have more stress now and it seems that the war affects on the work stress.

Also the mean score of personnel in Holmes and Rahe scale is 204 while the accepted score is 100 and the score is double that Normal range. This shows that the health of personnel is threatening in future.

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