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ORIGINAL ARTICLE / RESEARCH

Job Stress, Job Satisfaction and Mental Health

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ABSTRACT

Introduction: Stress has been proven to be a big contributor to medical ailments and a lot of people suffer from stress throughout the world. There are different factors that lead to stress, and among them stress from work has been learnt as a major contributor to illnesses. There have been a lot of studies conducted that have shown that a lot of people are suffering from stress at work due to various reasons, and these studies have helped us a lot to understand the situation much better.

Methods: Our study revolves around finding the relationship between job stress, job satisfaction and mental health. There were about 164 individuals in our study who were employees of a governmental organisation in Iran. All the individuals were interviewed, and the questionnaires that were used included the General Health Questionnaire (GHQ), Occupational Stress Inventory (OSI), and Job Descriptive Index (JDI).

Results: The statistics were collected from 164 individuals who were employees of a governmental organisation in Iran. In the study, it was found that a large number of participants were ranked in the low-stress range, which was about 93.9%.

Discussion: There have been a lot of studies conducted to understand the relationship between job stress and job satisfaction. A lot of the researches have shown that the people are suffering from increased amount of stress in their work environment and hence that caused them to suffer from medical illnesses. On the other hand, a good number of participants in our study showed very low stress in their work environment that helped us to learn the different factors that can provide an ideal environment for people at their jobs.

Key words: Stress, satisfaction, job, work, environment, performance, diseases

Introduction

Mental health

Though many elements of mental health may be identifiable, the term is not easy to define. The meaning of being mentally healthy is subject to many interpretations rooted in value judgements, which may vary across cultures. Mental health should not be seen as the absence of illness, but more to do with a form of subjective well-being, when individuals feel that they are coping fairly in control of their lives and are able to face challenges and take on responsibility. Mental health is a state of successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to adapt to change and to

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cope with adversity specific to the individual's culture.

Stress

Stress is defined as a non-specific response of the body to any demand made upon it, which results in symptoms such as rise in the blood pressure, release of hormones, quickness of breath, tightening of muscles, perspiration and increased cardiac activity. Stress is not necessarily negative. Some stress keeps us motivated and alert, while too little stress can create problems. However, too much stress can trigger problems with mental and physical health, particularly over a prolonged period of time.

Job stress

Job stress can be defined as the harmful physical and emotional response that occurs when the requirements of the job do not match the capabilities, resources, or needs of the worker. Job stress can lead to poor health and even injury. Long-term exposure to job stress has been linked to an increased risk of musculoskeletal disorders, depression and job burnout and may contribute to a range of debilitating diseases, ranging from cardiovascular disease to cancer. Stressful working conditions may also interfere with an employee's ability to work safely, contributing to work injuries and illnesses. In the workplace of the 1990s, the most highly ranked and frequently reported organisational stressors are potential job loss, technological advances, and ineffective top management. At the work unit level, work overload, poor supervision, and inadequate training are the top-ranking stressors.

Job satisfaction

Job satisfaction has been defined as a pleasurable emotional state resulting from the appraisal of one's job, an affective reaction to one's job, and an attitude towards one's job. Weiss (2002) has argued that job satisfaction is an attitude but points out that researchers should clearly distinguish the objects of cognitive evaluation, which are affect (emotion), beliefs and behaviours. This definition suggests that we form attitudes towards our jobs by taking into account our feelings, our beliefs and our behaviours.

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 is seen 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 globalisation and technological change [1]. Even in established sectors of industrial production, administration and services of advanced societies, experiences of downsizing, mergers and outsourcing are increasingly shared by employees [2]. Surveys of working conditions in Europe indicate that stressful experience recently increased in the European workforce although variations between countries and sectors are observed [3]. 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 [4],[5],[6],[13] and the effort–reward imbalance model [7],[8]; see also Refs. [9–13]. The demand–control model posits that jobs characterised 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 and Kittel (2005) analysed 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 1 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 [14],[15],[29] and, more recently, the effort–reward imbalance model [16–20],[29].

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 [15],[29]. The few studies on cardiovascular mortality partly support the model. Alterman et al. 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 [22],[29], to job control only [23],[29] and not to job control, work demands or their interaction [24],[29].

The effort–reward imbalance model considers the impact of labour market conditions on health in addition to the more proximal job conditions [15],[29]. 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 [25–29].

Stress-related illnesses, such as burnout, among physicians are receiving increased attention. [30–34],[46] 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 [34],[46] but also for the quality of patient care [32],[34–36],[46].

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 [42],[45]. In addition, in many countries job security has diminished owing to changes in health-care organisations [43],[44],[46]. 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 [45],[46]. These changes may influence physicians' experience of their work.

Ramirez and colleagues [30],[46] 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 were collected from three focus groups composed of 17 hospital nurses. Each focus group had an interview for an average of 2½ 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, which were related to the effects of job stress and mental health and job satisfaction and mental health; therefore, we focused to understand the patterns and characteristics of the effects of job stress and satisfaction and its relation to mental health among individuals of a governmental organisation in Iran.

Materials and Methods

This is a descriptive study to find relation between job stress and its relations to mental health.

Our statistics embraces 164 individuals who were employees of a governmental organisation in Iran.

We did conventional sampling. After sampling the questionnaire of the study was given to the

individuals to complete.

In this study we used three questionnaires:

1. General Health Questionnaire

The General Health Questionnaire (GHQ) is a self-reporting psychiatric screening instrument with a variety of forms that range from 12 to 60. The GHQ is developed from a pool of 140 items that are believed to cover all aspects of adjustments. These concepts include depression and unhappiness, anxiety and psychological disturbance, social impairment and hypochondriasis [15].

The GHQ-28 is a scaled version using Likert scoring methods.

Factor analysis showed that the factors measured are somatic symptoms, anxiety and insomnia, social dysfunction and severe depression. Other forms of the GHQ do not use Likert scale.

Scoring: Respondents rate themselves on a four-point severity scale, according to how they have recently experienced each GHQ item: "better than usual", "same as usual", "worse than usual" or "much worse than usual". Normally each item is scored either '0' or '1' depending on which severity the choice is selected. A total score is computed by adding the scores of each individual item [15].

The GHQ-28 is a scaled version. Likert scoring method is used to assign values of 0, 1, 2 and 3 for item severity [15].

The cut-off scores are 11/12, 3/4 and 4/5 for the GHQ-60, the GHQ-30 and the GHQ-28, respectively [15].

Reliability: (1) Split-half coefficient: $r = 0.95$ (GHQ-60), 0.92 (GHQ-30), 0.90 (GHQ-20) and 0.83 (GHQ-12) [15]. (2) Test–retest coefficient: $r = 0.85$ (GHQ-30) (Folstein), 0.90, 0.75 and 0.51 (GHQ-60) [15].

Validity: Current validity: In comparison with patients' overall clinical assessment, $r = 0.70$–0.83 [15]. In comparison with clinical ratings for two large group of general medical patients, $r = 0.67$–0.76 (GHQ-28) [16].

2. Occupational Stress Inventory

The Occupational Stress Inventory (OSI) is designed to measure the occupational adjustment on three different dimensions. These three different dimensions are Occupational Roles Questionnaire (ORQ), Personal Strain Questionnaire (PSQ) and Personal Resources Questionnaire (PRQ).

The OSI was developed by Osipow in 1998 and is not intended for clinical utilisation but rather for research purposes[47]. The OSI-R was based upon a previous version of the instrument that was developed by Osipow and Spokane in 1987 to measure occupational adjustment on three different dimensions. The OSI-R's three dimensions are defined as the ORQ, the PSQ and the PRQ. Each dimension has its own scales, which assess specific characteristics that subsequently contribute to the total overall score. The three dimensions can be used together, like in this study or individually based on the research questions. The three dimensions are further divided into the following scales:

(a) ORQ – role overload, role insufficiency, role ambiguity, role boundary, responsibility, and physical environment
(b) PSQ – vocational strain, psychological strain, interpersonal strain, and physical strain
(c) PRQ – recreation, self-care, social support and rational/cognitive coping

Each scale is comprised of 10 items, with the total number of items for all scales being 140. The ORQ consists of 60 items and the PSQ and PRQ have 40 items each. Reading the instructions and responding to the test items takes approximately 30 minutes to complete and requires approximately a fifth-grade reading level. Osipow articulates that care should be used if the OSI-R is administered to individuals to whom English may be a secondary language.

Additional cautions are made regarding the valid administration of the OSI-R, for example the OSI-R assumes that the respondent is physically and emotionally capable of meeting the normal demands of testing with self-report instruments. Individuals whose cognitive abilities may be compromised by the effects of recent drug use, withdrawal from drugs or alcohol, exposure to toxic chemicals or disorientation resulting from neurological disorder or disease should be tested with caution. Administrators should also be alert to physical or sensorimotor deficits, such as lack

of visual acuity or visual field deficits that could affect an individual's ability to complete the OSI-R in a valid manner. Individuals who are experiencing an acute illness or chronic condition may not be capable of providing valid responses, and testing should be deferred until a later date. All participant responses are based on a five-point Likert scale and include five anchor points: rarely or never, occasionally, usually, often and most of the time. Responses are hand scored and a separate recording sheet is used to record the data.

Reliability: Reliability estimates were determined by test–retest and internal consistency analyses and were ranging from 0.39 to 0.74, and the alpha coefficients of reliability ranged from 0.88 to 0.93.

Validity: Validity data for the OSI and OSI-R are reported in the OSI-R manual to be based on (1) convergent validity studies, (2) factor analyses, (3) correlational studies of the relationships of the scales to variables of practical and theoretical importance, (4) studies using the scales as outcome measures following stress reduction treatment and (5) studies of the stress, strain and coping model employing comparisons of selected criterion groups. In various studies the validity was reported in the 0.79–0.88 range.

Osipow (1998) reported, in an unpublished study, examined concurrent validity using the OSI-R with two other inventories and found that the measures were all correlated in "predictable ways" (p. 27)[47]. In terms of correlational studies, Fogarty et al. (1999) using the OSI found that for stress, strain and coping "correlations among the different variables were all significant (p<.05) and in line with expectations" [48](p. 436). Specifically, they found in their first study that stress directly affected strain positively ($b = 0.48$), coping affected strain negatively ($b = –0.14$), stress negatively affected coping ($b = –0.12$) and the whole model predicted 55% of variance in strain (Fogarty et al., 1999). In addition, Osipow (1998) reported, "treatment studies reveal that the PSQ and PRQ are sensitive outcome measures of treatment effects" with a "lack of change in stress scores (ORQ), as opposed to strain scores (PSQ)" (p. 35). This is expected based on the predicted hypothesis that coping mediates the relationship between stress and strain. Eight percent of samples were below 30 years, 19.5% were between 31 and 35 years, 43% between 36 and 40 years and 26% above 40 years. Also 85 were males and 13% were females. About 10% were below 5 years of employment experience; 20% were 5–10 years, 17% 11–15 years, 46% 16–20 years.

3. Job Descriptive Index

Job Descriptive Index is a parameter to determine job satisfaction. The Job Description Index is based on work, coworkers, supervisor, and pay and promotion opportunities. It is the most popular device to gauge job satisfaction. This was developed in 1969 by Pat Smith[49] 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; three points are given for a "Yes" response, one point for a "?" response and zero point for a "No" response. In this three-point response, '?' response shows the dissatisfaction of a person. (Cook, Hepworth, Wall, and Warr, 1981)[50].

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 coworker 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- 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 conceptualisation 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" (1989; p. 6). However, Smith et al. (1989) 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 emphasise job characteristics and not personal emotions about a person's job (Smith et al., 1989).

Yet, they conceptualised 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.

Results

The relationship between job stress, job satisfaction and mental health was studied in a governmental organisation. In this study, there were 8% individuals below the age of 30 years, about 19.5% individuals in the age range 31–35 years, 42% individuals between the ages of 36 and 40 years, and 26% individuals were above the age of 42 years. The individuals who were the part of this study had different years of experience at their job. There were about 10% of individuals with an experience level below 5 years, 20% had 5–10 years' experience, 17% had 11–15 years' experience and 46% had about 16–20 years of experience. This study comprised of 85% males and 15% females.

In [Table/Fig 1], the different kinds of stress were listed and the individuals were being questioned in the different stress categories. The stress categories were related to roles at work, the physical environment, responsibilities, family, work, and work and family. The different stress levels that were taken ranged from no stress to low stress, intermediate stress and high stress. The results were then categorised in average and standard deviation, in order to simplify the results. Among the roles at work, the role conflict was the one with the highest results of about 35.54. The next highest stress level among the roles was role ambiguity, which got an average of about 31.81. Role overload and role insufficiency both got an average of about 29.25 and 28.96. The stress caused by physical environment got an average of about 37.93. The stress among individuals due to responsibility was averaged at 20.97. The stress related to the family got an average of about 23.97. In the end, the stresses caused by work and work and family were ranked at an average of 94.87 and 118.81, respectively. The standard deviation was seen to be highest in the category of work and family at 15.57, and the least deviation was reported with family stress at 4.37.

Table/Fig 1

Stress	Very Low stress (%)	Low stress (%)	Moderate stress (%)	High stress (%)	Average	Standard deviation
Total	1	93.9	3.7	0		
Role overload	9.1	75.6	12.2	2.4	29.25	6.31
Role insufficiency	0	47.6	37.8	14	28.96	5.65
Role conflict	0	3	22.6	37.2	35.54	4.75
Role ambiguity	0	4.3	88.4	6.7	31.81	5.18
Physical Environment	0	48.8	22.6	28	37.93	6.76
Responsibility	11.6	19.5	62.8	5.5	20.97	7.93
Family	0	28.9	14.6	1.8	23.97	4.37
Work	0	13.4	72.6	13.4	94.87	13.34
Work and family	0	85.4	12.2	1.2	118.81	15.57

Distribution, mean and standard deviation of samples in different aspects of stress

In [Table/Fig 2], we studied the satisfaction aspects of the individuals by breaking down the satisfaction level into three different standards, which were low satisfaction, intermediate satisfaction and high satisfaction, and analysed it from the perspective of work, chief, cohorts,

preferment, salary and premium, and job. The satisfaction from preferment ranked the highest at about 20.1% and the satisfaction from work and salary and premium both were ranked at 13.4%. The lowest level of high satisfaction was seen from cohorts, which was at 1.2%. The satisfaction from cohorts in the intermediate satisfaction category was seen at the highest level with 88.4%. The satisfaction from work and chief in the intermediate satisfaction category were ranked at the second and third place with 86% and 84.8%, respectively. The lowest level of satisfaction was from preferment in the intermediate category with 16.6%.

Table/Fig 2

Satisfaction	Low satisfaction (%)	Intermediate satisfaction (%)	High satisfaction (%)
Total			
From work	0	86	13.4
From chief	11.6	84.8	2.4
From cohorts	9.8	88.4	1.2
From preferment	17.1	16.6	20.1
From salary and premium	12.8	72.2	13.4
From job	12.2	71.3	1.8

Distribution, mean and standard deviation of samples in satisfaction aspects

In [Table/Fig 3], the individuals were studied with reference of mental health, anxiety, social dysfunction and depression. Categorically, there were 22% of the individuals who were tending to have problems of mental health; 2.4% of the individuals were suffering from anxiety, 2.4% suffering from social dysfunction and 1.2% were suffering from depression.

Table/Fig 3

	Healthy (%)	Tend to disease (%)
Mental health	71.6	22
Anxiety	94.5	2.4
Social dysfunction	45.5	2.4
Depression	93.9	1.2

Distribution of samples in mental health aspects

In [Table/Fig 4] and [Table/Fig 5], we are discussing the relation between total satisfaction and mental health, their relation was significant and negative ($p = 0.301$) as in [Table/Fig 4].

Covariant between job and family stress and job stress was $p = 0.87$ and this covariant was significant in 99%. Also covariant between total stress, job and family stress was $p = 0.512$ and was significant at a level of 99%. The covariant between total stress and job stress was significant ($p = 0.49$) and covariant between job satisfaction and mental health was significant and negative ($p = 0.30$). In addition, the relation between total stress and mental health was significant ($p = 0.19$).

For determining significance of relation variables, we did variance analyses and the results are shown in [Table/Fig 5]. The results showed that there is a significant relation between total stress and family and job stress. Also between job satisfaction and total stress, there was not a significant relation. Between family stress and total stress there was a significant relation, and total stress, job stress and satisfaction from chief have significant relation.

Table/Fig 4

	Job stress	Mental health	Job and family stress	Job satisfaction	Total stress
Job stress					
Mental health	118				
	147				
	152				
Job and family stress	0.778	0.069			
	0	0.401			
	162	152			
Total satisfaction	0.107	0.301	0.137		
	0.180	0	0.083		
	160	151	160		
Total stress	0.493	0.190	0.512	0.124	
	0	0.019	0	0.118	
	61	152	161	160	

Correlation between different agents of study

Table/Fig 5

	F	Sig
Job and family stress	16.826	0
Job satisfaction	223	0.8
Family stress	7.308	0.001
From salary and premium	4.072	0.019
Total stress	32.384	0
Job stress	18.039	0
From chief	60.257	0

Variance analyses between different agents of study

Discussion

Work is an essential part of our lives. There are people who find real satisfaction in their work but there are people who get really stressed out because of their work situation. There are different factors that play a role with an individual suffering from stress in their job situation. Personal, interpersonal and organisational factors have been reported to relate to stress and burnout. For instance, burnout seems to be less prevalent among older people and among married people. Perfectionism, in contrast, increases vulnerability. Stress induced by emotion-laden patient contacts is often considered a cause of burnout. In the well-known model of Karasek, social support is emphasised as being a moderator between high work load, low work control and stress. In the work of Ramirez and colleagues, workload and a lack of adequate resources emerged as important stressors for medical specialists. There have been a lot of studies conducted from time and time again to understand the different factors that are related in causing stress at work and the factors that are the reason for a person's job satisfaction. It was through the various studies, it was learnt that job stress can lead to medical illnesses and it has been learnt that such a high level of stress among individuals through work can cause serious ailments such as cardiovascular diseases. Our study was based on studying the relation between job stress, job satisfaction and mental health in a governmental organisation in Iran. The studies that were conducted mostly showed that the individuals were having a great deal of stress in their job situation and a very few studies showed that the individuals were experiencing job satisfaction in their work environment. The study that we conducted matched the study conducted at a hospital where the participants were nurses. Each of the nurses was interviewed for about 2½ hours, and the major question that was asked to them was their experience of job satisfaction as a clinical nurse and their answer was that they were really satisfied with it. Most of the nurses stated that there were four major things that were the basis of their satisfaction, which included the sense of belonging to their profession, the self-respect that they were earning by helping others, perception of life, learning and pride. This study matched ours because there was a high satisfaction level among the participants who were being evaluated under various stress level

categories. The majority of our participants were between the ages of 36 and 40 years, which made about a good 42% of the total number of participants. The second highest majority was above the age of 42 years and that made about 26% of the total individuals. In this study, there were about a total of 85% males and 15% females. The results in broader terms were really amazing where about 93.9% of individuals were noted in the low stress range, 3% in the intermediate stress range and 0% reported in the high stress range. In the low stress category, there was an increased percentage of people who were having problem balancing their work life and family life, which was about 85.4%, and about 75.6% were suffering from low stress due to role overload. With regards to the satisfaction, the highest rank was taken up by satisfaction from cohorts, which was at 88.4%, 86% from work and 84.8% from chief.

This study has really helped us to understand the different factors that are responsible for the individuals to feel satisfied in their work environment and the factors that were the cause of their stress so that steps can be taken to improve the work environment and eliminate the factors that would reduce the stress so that people can live a healthy life and are able to balance it in almost every aspect.

Conclusions

There is a very close relationship between stress and medical illnesses. There are a lot of individuals in a lot of studies who have shown to suffer from increased amounts of stress just because they are not paid well, because of bad work environment, because of less growth opportunities, etc., and all these factors just lead to the development of high stress and can ultimately make a person to suffer. Our study showed that there were a lot of individuals who were suffering from low stress and that has really helped us to understand the different factors that were related to job satisfaction and mental health, as well as job stress and its relation to mental health. The statistics that are gathered are really going to help us learn the different aspects of the study and promote better working environment, growth opportunities, as well as a lot of other factors that make people get the best out of their potential.

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