

Is occupational stress associated with work engagement?

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Abstract. The occupational stress is associated with dissatisfaction, excessive demand at work and personal factors. Those factors can reduce work performance and can predispose workers to various diseases. Workers' health may be protected if there is encouragement to face challenges, which may lessen the impact on psychological and somatic stress and thus have greater personal and professional satisfaction. The aim of this study was to evaluate the association between occupational stress and work engagement. Participated in this study 457 male and female workers of a metallurgical industry. Subjects answered personal data, and the Job Stress Scale and Utrecht Work Engagement Scale were applied. Results showed an association between occupational stress and work engagement ($P=0,001$). The way the individual deals with his frustrations, or rather the work engagement, is associated with the occupational stress.

Keywords: Environment; Mental Health; Ergonomics, Work engagement, Workplace

1. Introduction

The work is an important connection between the economic and social development, with benefits that can effectively reach out to people^[4]. However, when working conditions are not adequate, increasing work demands may impose consequences, peoples' health, perception of physical loads and psychological burdens^[8].

However, people react differently to the same stressor, i.e, the ability to cope with stressful events may vary due to genetics, lifestyle, coping strategies used by the individual as well as the experiences and learning's acquired throughout life^[7].

The occupational stress is not a new phenomenon, and can affect, groups of workers, due to the emergence of diseases that have been linked to work stress,

such as hypertension, ulcers and other^[3]. Job strain occurs when the environment is perceived as a threat to the individual, reflecting on personal and professional demands appearing larger than their coping ability^[5].

The stress in the workplace is due to the insertion of the individual in this context since work in addition to enabling growth, transformation, recognition and personal independence, also causes problems of dissatisfaction, indifference, apathy and irritation^[3].

Thus, the work should give pleasure in order to improve quality of life. The employee may have his health protected to engage in appropriate coping behaviors that mitigate the impact of psychological and somatic stress^[11]. The use of healthy coping strategies increases the frequency and intensity of positive emotional states, such as peace, hope and well-being^[8]. Occupational stress has caused serious health risks to the individual, and also resulted in a reduce performance in work^[10]. Thus many workers can have

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some dissatisfaction depending on the task, responsibility, organization, administration and environment work [2]. Losses of work engagement can have effects on satisfaction and this condition can create stressful situations [12].

Thus, the aim of the present study was to identify if there is an association between occupational stress and work engagement in a metallurgical industry.

2. Methods

The study has a transversal epidemiologic design, with 457 workers of both gender. All answered a questionnaire with personal data. The Job Stress Scale [1] and the Utrecht Work Engagement Scale (UWES) were applied in order to quantify occupational stress and work engagement [6].

Interviews were completed in a private room, in groups of up to twelve people, which received information about the study and signed an informed consent.

2.1 Job Stress Scale

The Job Stress has 17 questions assessing the following dimensions: work demand (five questions), control (six questions) and social support (six questions). The final score is obtained by adding the points assigned to each question for each dimension with a score of 1 to 4 in order from lowest to highest frequency. Therefore, demand for dimension, when asked, "How often do you have to do your work tasks so quickly?" Answers offered four options: Frequently (score 4), sometimes (score 3), rarely (score 2) and never, almost never (score 1). Being one of the questions that also possessed the reverse direction of this dimension: "You have enough time to fulfill all of your work tasks?". By answering "often" was assigned (score 1), sometimes (score 2), rarely (score 3) and never or almost never (score 4). The demand scale score was obtained by adding up the scores of the five questions and ranged from 50 to 20 points. The size control was obtained by the sum of your six questions and ranged between 6 and 24 points, and also one of the questions on this scale had the reverse direction ("In your job, you often have to repeat the same tasks?"). The section on social support has six questions on relations with colleagues and bosses with a choice of four answers on a Likert scale (1-4), ranging from "strongly agree" and "strongly disagree".

2.2 Utrecht Work Engagement Scale (UWES)

Work engagement and individual notions of commitment to work were evaluated according to the Utrecht Work Engagement Scale (UWES). The total score is computed by summing the score for each sub-category: (a) vigor, characterized by high levels of energy and persistence during work even tough difficulties are present; (b) dedication, characterized by a significant involvement with the work, i.e., pride, enthusiasm and sense of challenge from the activities; and (c) absorption, characterized by full concentration on the job. Higher scores indicate a better classification of work engagement, which can analyzed numerically or be verbally expressed as very low, low, regular, high or very high, as determined by the final score. A similar procedure is followed for the total score. In addition, UWES shows the three sub-scales scores and / or total ranging from (0-6).

2.3 Data Analysis

The Statistical Package for Social Sciences (SPSS) software version 13.0 was used for statistical analysis, and significance was set at 5% ($P < 0.05$). Association between dependent variables (Job Stress Scale and work engagement) was investigated by means of Chi-Square test. Between groups comparisons were investigated by Mann-Whitney U Test for independent samples.

2.4 Ethical aspects

All subjects were informed about the objectives and procedures of the study and were invited to participate by signing an informed consent form that had been approved by the local ethics committee (Proc. N° 0048.1.186.000-10).

3. Results

The group was composed by 76.9% men; 22.1% woman. The mean age was 31.42 ± 10.48 years; Most participants had to be 58.7% married, 33.6% singles; 47.4% college degree, 32.3% university complete/incomplete; 20.3% musculoskeletal pain. There was no significant difference between men and women in respect to stress and work engagement ($P > 0.05$). The results about Job Stress and UWES scale are in Table 1.

Table 1

Mean values, standard deviation and median for the dimension of stress and work engagement scales

Dimensions		
Job Stress scale	Mean (SD)	Median
Demand	12.11(2.45)	12
Control	8.58 (1.30)	9
Suport	8.41 (1.97)	8
Total	29.10 (3.63)	29
UWES		
Vigor	4.83 (0.97)	5.17
Dedication	4.64 (1.18)	5
Absorption	4.21(1.18)	4.33
Total	13.67 (3.05)	14.4

The mean values for the scale of job stress were higher than other subscale in demand. For the values of well-being scale, the values of the subscales were similar (Table 1)

An association between and occupational stress and work engagement was found ($P=0,001$).

4. Discussion

The association between work engagement and occupational stress is positive. This condition shows that the influence of job satisfaction in the control of unpleasant conditions has a consequent on the control of stress^[6].

Stress is recognized as a disease of the century by the United Nations (UN) and the largest global epidemic. According to World Health Organization about 25% of the entire population will experience symptoms of stress at least one time in his life^[13].

The influence of social support on the psychological demand and control in determining the psychological strain must be more thorough, so you can be a model of evaluation that can absorb the conditions of social support. It would be important to identify the contribution of social support for entering this in a scale model that considered not only two opposite sides (demand and control), as does the two-dimensional model, but also includes an apex regulator of both a set point three-dimensional model^[9].

The answers to the assessment of stress and work engagement were similar for both males and females. The control of sub-item stress scale was the one that had the highest rates for both.

The assessment by the scale of job stress showed that the dimension demand were higher compared to the control and social support. This shows that stress

is more related to time and speed to perform the work, than when not requires different skills and autonomy in making a decision on the jobs, which occur in the control dimension, and when the need for social support comes from the relationship with colleagues and supervisors.

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