

## Job Burnout among Khuzestan Steel Company Workers

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### ABSTRACT

**Objectives:** As occupational diseases are on the rise, and burnout in various jobs impact the performance of individuals and that steel industry workers' job is important, the present study aimed to investigate the prevalence of burnout among Khuzestan Steel Company workers.

**Methods:** This descriptive cross-sectional study was conducted on a population of 300 workers from Khuzestan Steel Company selected through stratified random sampling method. The data were collected through a two-part instrument, including the demographic characteristics questionnaire and Maslach Burout Inventory (MBI) with 22 items and three subscales, whose reliability and validity have been confirmed in various studies. The data were analyzed using frequency, percentage, mean, t-test, and Spearman's correlation in SPSS-16.

**Results:** The results showed that of the 296 workers studied, 90% had moderate, 2% had severe, and 8% had low levels of burnout. There was a significant difference between the mean burnout score and each of the variables (level of education, household size, employment status, amount of income, workplace, and job satisfaction) ( $P < 0.05$ ). Job satisfaction was at moderate and low levels among 65% of the workers. Based on the linear regression analysis, job satisfaction was the strongest predictor of burnout.

**Conclusion:** Most of the workers had experienced moderate levels of burnout and the relationship between burnout and job satisfaction was confirmed. Therefore, conducting studies for determining the burnout status of workers in different sectors of industry seems necessary.

**Keywords:** Burnout, workers, job satisfaction

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## Introduction

People usually spend one-third of their waking hours in their workplace [1], where five risk factors exist for human health, including physical factors, chemical factors, biological factors, ergonomic factors, and psychological factors. Stress is considered the most important psychological factor affecting health [2]. Burnout is one of the most important consequences of prolonged stress. Burnout is among the occupational disorders which received attention in recent years [3, 4]. The term burnout was coined by Rothenberger when he observed fatigue symptoms among his employees [5]. Burnout is one of the issues that threaten human resources and is defined as employees' exhaustion and lethargy. If someone experiences burnout, it negatively affects their attitude, mood, and behavior and they feel emotionally exhausted, and they gradually feel a decline in their ability to perform duties [6]. Burnout is not typically a mental disorder, but it may develop steadily over time and may actually turn to a mental disability, such that some experts classify it in the diagnostic and statistical manual of mental disorders (DSM), under adaptive disorders. Accordingly, working loses its importance to them. People suffering from burnout feel chronic fatigue, they become aggressive, cynical and pessimistic in their interpersonal relationships [6]. This condition incurs huge costs on people and organizations, such that it is estimated that 40 million working days are lost each year in the UK due to burnout-related disorders [7]. Since this syndrome incurs costs on society, investigating and determining the relevant factors in local and foreign studies seems necessary [8]. Research has shown that burnout can cause

anxiety, depression, reduced self-confidence, substance abuse, reduced performance, and increased health problems [9]. Burnout is a phenomenon that reduces energy and power of individuals and organizations, affects workers' productivity [10] and is used to describe a person's response to psychological stress experienced [11]. Job burnout is influenced by various factors, such as type of occupation, role conflict, excessive work pressure, type of management, lack of social support, organizational changes, and working hours [12]. Poor working conditions, a sense of organizational inefficiency and lack of personal development, limited opportunities for promotion, and the presence of restrictive laws and regulations in the organizational system are other factors contributing to the development of burnout [13]. Gilmore and Danson believe that external factors, such as low income can provide grounds for burnout [14]. Burnout is considered a major general health problem [15] which can affect a person's general health [16]. According to the facts mentioned in this study and research conducted on burnout in a broader sense [17,18] and considering the importance of workers' productivity, especially the steel industry workers who play an important role in the economy, the present study was conducted to investigate the burnout status among the steel industry workers.

## Material and Methods

This cross-sectional descriptive study was conducted in 2013. After determining the sample size and sampling, the data were collected. With a test power of 95%, the sample size was calculated 300 subjects who

were selected through cluster sampling from different sectors of Khuzestan Steel Company. Of the 300 subjects, four were unwilling to cooperate and finally, 296 workers completed the questionnaires. The data were collected and questionnaires were completed by the Steel workers through self-reporting. The questionnaire used in this study consisted of two parts: the first part covered demographics, such as age, level of education, amount of income, type of employment, workplace, shift or non-shift work, and job satisfaction, and the second part was the Maslach Burout Inventory (MBI) which contains 22 items and three subscales. Each item is rated on a 7-point scale ranging from 0 to 6 and the participants are classified into three levels of low (0-44), moderate (45-88), and high (89-132) based on the scores obtained. These three subscales are emotional exhaustion (items 1, 2, 3, 6, 8, 13, 14, 16, and 20), depersonalization (items 5, 10, 11, 15, and 22), and lack of personal accomplishment (items 4, 7, 9, 12, 17, 18, 19, and 21). The reliability and validity of MBI have been confirmed in various studies in Iran [13, 15, and 19]. In the present study, the reliability of the questionnaire was obtained 0.79 using Cronbach's alpha and the reliability of emotional exhaustion, depersonalization, and lack of personal accomplishment were obtained 0.79, 0.80, and 0.83, respectively. The data were analyzed using t-test and Spearman's correlation in SPSS-16. The inclusion criterion was obtaining consent from all workers and engineers working in different sectors of the company and they were allowed to withdraw from the study whenever they wished. Maintaining human dignity is the most fundamental principle in scientific research which was observed by keeping the participants' information

confidential and getting approval from the Ethics Committee of Shahid Sadoughi University of Medical Sciences, Yazd, Iran.

## Results

In this study, 300 male workers participated, 296 of whom completed questionnaires. The mean age of workers was  $31.43 \pm 4.34$  years. More than 80% of workers were married. The workers' mean work experience was  $5.14 \pm 3.603$  years (Table 1).

**Table 1.** The frequency and percentage of Khuzestan Steel Industry workers in terms of demographic characteristics

Variables	Frequency	Percentage	
<b>Level of education</b>	diploma	72	24.3
	Associate Degree	63	21.3
	Bachelor's degree	123	41.6
	Master's degree or higher	38	12.8
	<b>Marital status</b>	Married	219
	Single	77	26.0
<b>Type of employment</b>	Official	11	3.7
	By covenant	32	10.8
	Contractual	253	85.5
<b>Shift work</b>	Not working on shifts	156	52.7
	Working on shifts	140	47.3
<b>The amount of income in million Toman</b>	Less than 1.5	157	53
	1.5 – 2.5	96	39.2
	More than 2.5	23	7.8

As reported, 266 workers (90%) had moderate, 5 (2%) had severe and 25 (8%) had low burnout levels. A total of 102 participants (35%) had low, 158 (53%) had moderate, and 36 (12%) had high job satisfaction. Among all, 55% of workers had

a bachelor's degree or higher, 85% were contractually employed, and more than 95% had shift work. There was no significant

difference between the mean burnout and marital status.

**Table 2.** The minimum, maximum, mean, and standard deviation of job burnout and its three subscales among Khuzestan Steel Industry workers

<b>Burnout and its three subscales</b>	<b>Frequency</b>	<b>The minimum score</b>	<b>The maximum score</b>	<b>Mean</b>	<b>SD</b>
<b>General burnout</b>	296	35	118	60.97	13.53
<b>Emotional exhaustion</b>	296	9	44	22.96	7.73
<b>Depersonalization</b>	296	5	17	9.26	3.26
<b>Lack of personal accomplishment</b>	296	13	78	28.74	9.07

The difference between the mean burnout and the level of education, household size, job satisfaction, amount of income, and other variables was significant ( $P < 0.05$ ) (Table 3). The results showed that workers with higher job satisfaction had less mean burnout. The ANOVA results showed that there was a significant correlation between job satisfaction and burnout (Table 3). A significant and inverse correlation was found between burnout and job satisfaction of workers ( $P = 0.000$ ,  $r = 0.304$ ).

## Discussion and Conclusion

This study aimed to assess burnout and its dimensions among Khuzestan Steel Company workers. As shown, the overall burnout was at a moderate level among 98% of workers. As reported in Mazloomy et al.'s study, two dimensions of burnout, namely emotional exhaustion and depersonalization were low among 73% of workers [18]. According to Najafi's study, only 14% of workers had moderate burnout level [20]. Other studies have reported different levels of burnout among workers

[20, 21]. Higher levels of burnout were observed among workers in this study compared with other studies. In other words, in this study, a smaller percentage of workers reported low levels of burnout. However, in most studies, the mean burnout in dimension of lack of personal accomplishment is very low [13, 18, 22]. In this study, the mean score for this dimension was  $28.74 \pm 9.07$ .

As reported in Mazloomy's study, 70% of workers felt lack of personal accomplishment at high levels [18] and in Shahnazdoust's study, 66% of subjects had this feeling at moderate levels [23]. High levels of burnout in dimension of lack of personal accomplishment can indicate negative attitudes toward profession and lack of interest in the profession, and reduced confidence in people [13]. The results showed that there was a significant correlation between burnout and level of education. Our findings showed that 55% of workers had a bachelor's degree or higher. A significant difference was also observed between these two variables in other studies [21, 24]. As reported in other studies, the

level of education was inversely correlated with the burnout level, while in the present

**Table 3.** The mean and standard deviation of general burnout in terms of personal characteristics of Khuzestan Steel Industry workers

Variables	Mean	SD	Test statistic	P value
<b>Marital status</b>				
Married	61.20	14.81	0.498	0.619
Single	60.13	8.97		
<b>Level of education</b>				
diploma	58.54	16.74	12.406	0.000
Associate Degree	54.12	6.54		
Bachelor's degree	65.66	13.94		
Higher than bachelor's degree	61.73	6.66		
<b>Household size</b>				
1	57.00	11.54	4.690	0.001
2	64.78	16.19		
3	60.31	11.29		
4	58.17	3.67		
5 and more	55.09	13.95		
<b>Job satisfaction</b>				
Low	66.44	14.93	12.06	0.000
Moderate	62.89	14.82		
High	56.06	8.68		
<b>Type of employment</b>				
Contractual	60.65	11.89	27.473	0.000
By covenant	54.68	5.25		
Official	86.63	30.03		
<b>Sector</b>				
Engineering	68.56	22.13	9.33	0.000
Manufacturing	58.78	11.10		
Exploitation	60.83	10.62		
<b>The amount of income in million toman</b>				
Less than 1500	60.00	13.01	23.749	0.000
1500-2000	56.11	6.93		
2500	65.15	8.48		
More than 2500	79.52	22.18		
<b>Type of work</b>				
Non-shift	65.91	14.20	7.168	0.009
Shift	55.47	10.29		

study, higher levels of education was correlated with higher burnout levels. It seems that higher levels of education, differences in time and place of studies, and other specific features can lead to increased expectations, stress, and burnout.

The results showed that there was a significant and inverse correlation between burnout and job satisfaction among workers, which is in line with other studies reporting that reduced job burnout is associated with increased workers' satisfaction [19, 22]. The inverse relationship between these two

variables show that the more job satisfaction is, the less job burnout would be, and if a person is satisfied with their job, age and work experience cannot affect their exhaustion [19, 22].

In the present study, there was a significant correlation between shift work and burnout, while it was not significant in another study [19]. The type of shift work can potentially affect the burnout level due to having no stability in working and sleeping time. Like many other similar studies, this study showed that there was no significant correlation between burnout and marital status [19, 21]. However, 80% of workers were married and this may be the reason for the lack of significant correlation between these two variables.

**Table 4.** Independent variables affecting general burnout in terms of linear regression analysis of Khuzestan Steel Industry workers

Independent variables	B	Test statistic	P value
Work experience	0.241	1.282	0.000
Income	0.054	5.345	0.000
Job satisfaction	4.923	5.704	0.000
Shift work	-2.362	-4.877	0.000

A significant correlation was observed between job burnout and age and work experience. The correlation between age and burnout was significant and positive, i.e. with increasing age, the burnout level will increase. This matter seems to be logical. However, as reported in Saberi's and some other studies, there was a significant and inverse correlation between age and burnout, i.e. with increasing age, the burnout level reduced [25, 19, and 21]. The difference in results despite having a common variable

can be due to different characteristics of the study population.

The results showed that there was a significant correlation between the type of employment (official or contractual) and the burnout level among employees. It was interesting that official staff showed higher levels of burnout compared with contractual staff. However, in Seyed Javadin's study, official employees had less burnout [24]. In the present study, it seems that due to place and time of the study and other personality factors, employees with higher education and definite employment and higher income had higher burnout levels. All the above variables can change employees' expectations and perspectives in a way to reduce their job satisfaction.

The results revealed a significant difference between different job positions and burnout. The highest level of job burnout was observed in manufacturing sector compared with the engineering sector, i.e. the burnout level among workers with difficult working conditions was higher which is consistent with Seyed Javadin's results [24].

A significant correlation was observed between the amount of income and the mean burnout score, i.e. with the increase in wages, the mean burnout also increased. Therefore, along with other variables, employees with better conditions in terms of education, income, and type of employment showed higher levels of burnout or mental and physical dissatisfaction, probably due to increased levels of expectation and differences of opinions.

Linear regression analysis showed that job satisfaction was the most important predictor of burnout and then, the income and shift work played an important role in

predicting the burnout. In general, it can be said that in this study, the burnout level was inversely correlated with the amount of income, level of education, and employment status of workers. As it was shown, by increasing job satisfaction that probably includes items other than items mentioned, we can reduce burnout and the feeling of lack of personal accomplishment. We cannot expect the same results from different studies, even if they are conducted on similar populations, like workers. Therefore, further studies should be conducted in different populations and working conditions in Iran, especially on workers.

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