

Occupational Exhaustion and its Determinates in a Military Industry Workers in Iran

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Abstract

Background: Burnout is a psychophysical syndrome that lead to negative attitudes of the person toward his/herself, job, and others.

Objectives: The aim of this study was the determination level of exhaustion dimensions and related factors in employees of a military industry.

Methods: This study was conducted in December 2013 on 149 employees. In this study, data gathering was done with demographic questionnaires and Maslach Burnout Inventory (MBI). Information was gathered in a semi-supervised self-reported manner. Data analysis was performed using SPSS version 16.

Results: The mean score of Depersonalization was equal to 3.25 ± 3.43 , personal accomplishment 31.89 ± 7.01 , and emotional exhaustion 10.78 ± 9.09 ($M \pm SD$). 17.4% of employees have moderate to high level of depersonalization and 19.5% have moderate to high level of emotional exhaustion. Furthermore, 15.8% have weak personal accomplishment. Of the assessed variables, education, chronic diseases, and work experience are significantly associated with burnout.

Conclusions: Based on the average, burnout level in the study group is assessed as favorable. Given the proven correlation between individual and occupational variables and burnout in this study and other studies, it is necessary to pay more attention to prevent these factors of burnout and corrections in work conditions for the subjects who work in such workplaces.

Keywords: Burnout, Exhaustion, Occupational Exposure, Industry, Workers

1. Background

Psychologists believe that exhaustion or burnout is an individual's response to interpersonal stressors in the workplace (1). Burnout is a psychophysical syndrome that lead to negative attitudes of the person toward his/herself, job, and others (2). This syndrome can be examined in 3 dimensions: emotional exhaustion, depersonalization, and lack of personal success.

In emotional exhaustion, the person feels under pressure. This in turn can cause the loss of the individual's emotional sources and lack of motivation and disinterest for continuing the work can be observed. In terms of depersonalization, the person has a negative view towards others including clienteles and coligues (1, 2). This in turn leads to negative and callous attitudes towards them. In other words, the person's reaction to his entourage is negative, without emotion and too neutral. From the point of view of the lack of personal success, a person has a sense of disability and feels he/she cannot reach achieve-

ment or compete with others (3, 4). The preliminary damage that occurs during a burnout is suffering from exhaustion body, i.e., basically these people have low energy and feel excessive fatigue. Other symptoms include mental burnout, depression, feelings of helplessness, and feelings of ineffectiveness. Organizational symptoms of burnouts include absence from job, reduced willingness to continue the work, reducing competition, and efficiency (2-4). Up to now, no serious action has been taken to determine the exact prevalence of burnout and therefore, cannot be argued about the exact prevalence of a burnout (5). However, studies indicate that it can affect a range of work forces especially in stressful organizations and do damage them (6). It is believed that people with symptoms of burnout syndrome can spread it among other people in their organization (7).

These people induced burnout dimensions and it quickly spread to others in the organization. Therefore, this problem firstly disturbs the individual equilibrium

and then the organization one (8, 9), which can be a reason for increasing attention of researchers and practitioners of labor productivity to this syndrome (7). They are trying to identify the factors leading to a burnout and by addressing the underlying factors increase the workforce well-being and organizational productivity (3). In order to provide appropriate strategies for prevention of the creation and development of occupational burnout, the affecting and causing individual and organizational factors must first be identified (2, 9). There are several individual and occupational variables, which are related to a burnout. For example, in a study it was concluded that the greatest impact on occupational burnout were allocated to management and occupational contexts (10).

Some studies on naval personnel, found that age, experience, and management style have a significant effect on reducing burnout. In addition, a significant correlation was observed between burnout, administrative rules, and accommodations. Moreover, it is revealed that all work-related stress factors are significantly associated with burnouts and changes in employees' working model are causing stress in staff and prevalence of exhaustion and burnouts (8, 9, 11). According to studies, flexible working patterns, embracing new working ideas, using teamwork and so on can be effective on the frequency and intensity of burnout dimensions (9, 12).

2. Objectives

Although numerous studies in Iran as well as abroad have been paid to the study of burnout in workers, however, most studies conducted in Iran have dealt with in office environments and services and less in the industrial sector. Therefore, this study aimed to determine the level of personal and occupational exhaustion and the factors related to it in the industrial sectors.

3. Methods

This cross-sectional descriptive study was carried out on all 149 employees of the military industry in 2015.

3.1. Measurement

Data collection tools included a 2-part questionnaire. The first part included a demographic data questionnaire and the second part was the Iranian version of the Maslach Burnout inventory questionnaire. This questionnaire is the most common measurement tool among people with different career backgrounds, which measures 3 domains of burnout in emotional exhaustion, depersonalization and individual performance. This questionnaire has been

used in several studies in Iran and has proved its reliability and validity. Akbari et al., in their study, achieved that questionnaire reliability for the 3 components of emotional exhaustion, depersonalization, and individual performance, were 0.76, 0.60, and 0.70, respectively (13). In addition, other studies reported the validity and reliability of the questionnaire using Cronbach's alpha coefficient is good and used in their studies (10, 14). In this questionnaire, increase in score of individual performance dimension means a higher individual performance and favorable conditions (less depreciation). While in other aspects, higher scores mean that more, in the sense of depersonalization and emotional exhaustion and more unpleasant conditions (higher burnout) are.

To collect the information after coordination with relevant industry, subjects for individual and group form were called to the health and safety unit.

After obtaining voluntary consent to enter the study, the explanation of the study as well as the purpose was provided to them. They were then given and asked to carefully complete the questionnaires on a maximum duration of 20 minutes.

3.2. Statistical Analysis

After the stage of gathering data questionnaires were analyzed using SPSS version 20. Demographic and occupational data were studied using descriptive statistics such as frequency, mean, and standard deviation. For the analytical analysis t-test and ANOVA, Pearson's correlation coefficients with a confidence interval of 0.95 were used. Tukey's multiple comparison tests, including tests and post hoc, is also used for comparative studies between groups. Finally, to evaluate the real effect of the independent variables related to job burnout, regression analysis was used and the effect of each independent variable on the dependent variable was analyzed effectively.

4. Results

Table 1 shows the mean and standard deviation of various dimensions of burnout presented in groups. In the field of burnout, mean score of both the depersonalization and the emotional exhaustion were low. However, in terms of individual performance, the mean score obtained for study group was in high-level (Table 2). Correlation between individual variables with different dimensions of burnout is given in Table 3. Analysis using Tukey test showed that the mean score obtained for diploma and bachelor depersonalization groups is significantly different ($P = 0.034$). Furthermore, in the individual performance aspect, the mean score obtained for individuals

with lower education than those with bachelor degree difference was significant ($P = 0.015$). Correlation between burnout and work-related variables are presented in [Table 4](#).

Table 1. Score of Different Burnout Dimensions

Variable	Mean	SD
Burnout Dimensions		
Depersonalization	3.25	3.43
Personal accomplishment	31.89	7.01
Emotional exhaustion	9.09	10.78

Table 2. Frequency of People in the Different Dimensions of Burnout

Burnout Dimensions	Person	Frequency
Depersonalization		
Low (≤ 5)	123	82.6
Moderate (6 - 11)	20	13.4
High (≥ 12)	6	4.0
Personal accomplishment		
Low (≥ 40)	23	15.8
Moderate (34 - 39)	34	23.3
High (≤ 33)	89	61.0
Emotional exhaustion		
Low (≤ 17)	118	80.3
Moderate (18 - 29)	21	14.1
High (≥ 30)	8	5.4

Analysis using Tukey test showed that the mean score of depersonalization in the 2 groups of treaties and contracts had a significant difference ($P = 0.1$). This significant level similarly for emotional exhaustion was observed among different groups of employment ($P < 0.05$). The results in [Table 5](#) showed regression results, which in the previous step, a significant relationship with burnout is provided. Regression analysis provided in [Table 5](#) for the variables have shown in the previous step a significant relationship with burnout.

5. Discussion

According to the results in terms of frequency, at 82.6% of cases, the depersonalization is low and 17.4% are with medium and high depersonalization. The situation was somewhat similar in emotional exhaustion, therefore,

80.3% of studied group were with low emotional exhaustion and 19.5% with medium and high emotional exhaustion. However, in terms of individual performance, there were somewhat worse conditions and 15.8% of the subjects were indicated with weak performance. Thus, among the 3 dimensions of burnout, an individual performance criterion is worse than the other 2 dimensions of burnout. In the context of burnout, the mean score of both the depersonalization and emotional exhaustion were determined low. However, it was in high level for the dimension of individual performance. Thus, on average, the burnout level of the studied group was evaluated in the desired level.

The results of this study are consistent with numerous studies, for example, in a study on nurses, the dimensions of emotional exhaustion and depersonalization were low in most subjects, while they had a higher individual performance. As a result, the level of burnout in the study group was evaluated at low level (4). Similar results have been reported in the study on nurses (4, 15). In the study done on the official staff, most of the burnouts were related to individual performance (29.2%) and the lowest levels for the depersonalization (4.6%) (16). The findings of this study match with other studies, due to the fact that severe burnout was not observed among military personnel in present study (17, 18). The results of Martinez's study on dentists showed that burnout is lower in the study group and only 2% to 3% of the subjects had high burnout (19).

On the other hand, the results of the study show no significant relationship between age and the dimensions of burnout. This result is consistent with numerous studies (18-20). Despite the fact that the results of this study were consistent with many studies, in some cases conflicts can be seen. Anisi and Abdi, for example, in their studies, concluded that there was a significant negative correlation between age and burnout, therefore, younger people experienced burnout more. The reason was stated due to an increase of experience and compatibility with the job along with increasing age, so that the attitude towards their job can be better and less occupational burnout takes place (6, 15, 21). The results indicated that among some groups of subjects in terms of education, there is a significant difference between mean scores of job burnout. In such a way, the mean score of depersonalization was significantly higher in those with a bachelor degree related to diploma ones. Furthermore, those with less than a high school education significantly had poorer individual performance than those with a bachelor degree. This may be due to the negative attitude towards a job, lack of job satisfaction, and reducing of confidence among subjects with less education. The results of this study are consistent with other studies (6, 21-23). However, in some studies, a significant relationship was not observed between educational level and

Table 3. Significantly of Correlation Between Burnout and Demographic Variables

Burnout Dimensions	P Value				
	Age	Education level	Chronic disease	Taking medication	Smoking
Depersonalization	0.66	0.03	1.45	0.80	0.42
Personal accomplishment	0.11	0.02	0.00	0.06	0.32
Emotional exhaustion	0.12	0.70	0.01	0.74	0.80

Table 4. Significantly of Correlation Between Burnout and Job Variables

Burnout Dimensions	P Value					
	Jobs (worker, employee)	Type of employment	Work experience	Second job	Daily working hours	Accident
Depersonalization	0.53	0.00	0.47	0.71	0.95	0.01
Personal accomplishment	0.00	0.22	0.00	1.93	0.42	0.22
Emotional exhaustion	0.53	0.00	0.00	2.44	0.99	0.03

Table 5. Regression Analysis of Relating Variable To Burnout Dimensions

Burnout Dimensions	Variables	B	Std. Error	Sig.
Depersonalization	Accident	1.37	0.64	0.03
	Chronic disease	-4.49	1.71	0.01
Personal accomplishment	Education level	1.33	0.42	0.00
	Chronic disease	6.86	2.13	0.00
Emotional exhaustion	Work experience	0.19	0.09	0.04

job burnout (24-26). In addition, no significant relationship between smoking and burning out was found. The same result was obtained in another study (27).

The results of the study also showed a significant relationship between burning out and chronic disease, so that, the individual performance of subjects with chronic diseases was less than healthy ones. Also, the mean score of emotional exhaustion was higher in patients than healthy individuals. On the other hand, the results showed that it does not exist a statistically significant relationship between the medication and the different dimensions of a burnout.

Work-related variables were also identified in relation to the type of job, mean individual performance in the 2 groups of workers and official staff had significant difference and individual performance was weaker in the working groups (8, 9, 16, 19). However, in the other 2 dimensions of emotional exhaustion and depersonalization, no significant differences between the 2 groups were observed. The mean score of depersonalization also had significant differences in different employment groups, thus, the mean score of the treaty employees were significantly higher

than other kinds of employment. Similar results were obtained in other studies (8, 16).

It A decrease in individual performance with increasing of job experience but significantly increase in emotional exhaustion was also found. Generally, with increasing work experience, job burnout significantly increased. Similar results were obtained in other studies and confirmed that there was a significant relationship between experience and emotional exhaustion, however, this relationship was reverse, thus, people with less experience suffer from job burnouts more (12, 18, 28).

In this study, a significant correlation between daily working hours and job burnouts were not observed. This finding was observed between a second job and a burnout. These result are consistent with results of other studies (2, 27). We also showed that there was significant a difference for emotional exhaustion and depersonalization between the 2 groups of subjects with or without accident experience. Regression analyzes on the determinants of the different dimensions of burnout indicated that the depersonalization level of subjects who experienced an accident was as equal to 1.37 units higher than subjects without accident.

As well as, the individual performance levels in people with chronic diseases were 4.94 units lower than healthy people. With higher levels of education, the individual performance can be better as equal to 1.33 units. In addition, emotional exhaustion was 6.68 units higher in patients than in healthy individuals and for adding each year of work experience, the level of emotional exhaustion increases as equal to 0.19 units. One of the main restrictions in this investigation was impossibility of detection and analysis of other variables that might be having an impact on the level of burnout. Therefore it is recommended for future studies to consider other individual and organizational variables in industrial environments.

Overall, it was revealed that among all personal and work-related variables affecting burnouts, the greatest effect was related to chronic diseases, which is most effective on the aspect of personal performance and emotional exhaustion. In the meantime, education, accidents, and experience in terms of the impact on job burnout, respectively, were next variables.

5.1. Conclusion

Based on the results obtained in the present study the occupational burnout is evaluated at an acceptable level. Regarding effects of some individual and occupational variables affecting occupational burnout, it is necessary to pay more attention to prevent these factors of burnout and corrections in work conditions for the subjects who work in such workplaces.

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Footnote

Authors' Contribution: Hamidreza Heidari; Contributions to the conception, design of the work; analysis, and interpretation of data and final approval of article, Mohsen Mahdinia; Contributions to the conception or design of the work and final approval of the article, Hoda Rahimifard; Contributions the acquisition and analysis of data for the work and drafting the article, Mohammadreza Mohammadbeigi; Contributions the acquisition and analysis of data for the work and drafting the article, Ahmad Soltanzadeh; Contributions the acquisition and analysis

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