The prevalence of burnout and its relationship with capital types among university staff in Tehran, Iran: A cross-sectional study

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ABSTRACT

Background: Burnout is a job-related syndrome that is common among university staff, and it is caused by various factors. The purpose of this study was to investigate the prevalence of burnout and its relationship with capital types among university staff in Tehran, Iran.

Methods: A cross-sectional descriptive-analytical design was used in which 420 staff were randomly sampled from the Iran University of Medical Sciences. For data collection, the researchers used the Burnout Inventory of Maslach and Jackson and Capital Types Questionnaire. The data were entered into SPSS software (Version 22) and analyzed by descriptive and inferential statistics and regressions.

Results: The mean burnout of staff was 84.42, and 45.9% of them had high burnout. A significant relationship was found among capital types, work experience, gender, education, and burnout. Multiple linear regressions also showed that independent variables estimated about 32% of the variance of the dependent variable, social capital, gender, and work experience, contributed more to explaining and predicting burnout index.

Conclusion: Regarding the relationship between burnout and capital types (economic, cultural, and social), it is necessary to increase capital by increasing cultural activities, staff's knowledge level, income levels, informal groups, and finally, strengthening interpersonal relationships among staff.

1. Introduction

The term “Burnout” was first used in the 1970s to describe the status of high workload volunteers in mental health clinics [1]. Burnout is a psychological syndrome involving the three axes of emotional exhaustion (EE), depersonalization (DP), and personal accomplishment (PA), and it occurs when a person in the workplace is subjected to prolonged stress with severe psychological and physical consequences [2].

Burnout will lead to a low quality of work [3], customer dissatisfaction [4], depression [5], and even physical illnesses such as headaches, type 2 diabetes, and respiratory problems [6]. The factors such as job motivation and stress [7], lack of adequate support from managers [8], high workload [9], and physical disorders [8] can cause burnout.

One of the variables that has been recently considered by health professionals is capital. Bourdieu divided Capital Types (CTs) into three types of social, economic, and cultural capital, and believed that it is capital which allows a person to control his and others' destiny [10, 11]. Social capital is a network of interpersonal and intergroup relationships that facilitates actions toward achieving individual and collective goals. Economic capital means the wealth and money of every social activist in his hand and includes income and other types of financial resources. Cultural capital also means the power to recognize and use cultural goods by each person. According to Bourdieu's view, the meaning and concept of economic capital originate from the economic field whereas, cultural
capital encompasses a variety of legitimate knowledge, which derives from one's dignity, and social capital includes valuable social relations among human beings [10, 12].

In the last decade, several studies have demonstrated the inverse relationship between capital (especially social capital) and burnout [13, 14, 15]. Eliacin J et al., 2018 found a negative and significant relationship between social capital and burnout [16]. Khakasr SM et al., 2019 revealed that social capital played a vital role in reducing burnout for staff working in hazardous environments [17]. The study results of Karami Matin B et al., 2014 showed a statistically negative and significant relationship between different variables. Most studies have been conducted on burnout among nurses, but medical personnel and university staff have been less studied. Also, several studies have examined the factors associated with burnout, where fewer studies have examined its relationship with capital. Moreover, the studies that investigated the relationship between capital and burnout have focused more on social capital and less on other CTs. Therefore, the purpose of the present study was to investigate the prevalence of burnout and its relationship with CTs among the staff of the Iran University of Medical Sciences in Tehran, Iran.

2. Methods

2.1. Design and participants

The present study was a cross-sectional descriptive-analytical one. The statistical population included all the employees (n = 2000) working in different faculties and departments of Iran University of Medical Sciences in 2020. After receiving approval from the university to conduct this research, the list of the staff was received from the university's human resources management team. The simple random sampling method was employed to select the samples to give everybody an equal chance of being selected. For this purpose, after providing a code to each employee, the samples were selected using a random number table, and they were asked to cooperate and complete the questionnaires by referring to their codes. In addition, the researchers selected new samples from the table by replacing those who refused to respond to their questionnaires. The study inclusion criteria were being a staff (non-retired) of the Iran University of Medical Sciences, having at least one year of work experience, willingness to participate in the study, having the satisfaction as university officials Work experience below one year, reluctance to participate in the research, and unanswered questionnaires were also considered as the exclusion criteria.

In order to determine the sample size, considering that the burnout rate in three dimensions and total burnout was reported to be moderate in different Iranian studies [20, 21, 22], the presence of burnout variable (p) and its absence (q) was considered to 0.5 for performing sampling in the present study.

\[
\frac{(2) \times (pq)}{(d^2)} = \frac{(1.96)^2 \times (0.5 \times 0.5)}{(0.05)^2} = 384
\]

Including around 10% of the additional sample, the total number of samples was estimated n = 422, of which- 2 questionnaires were incomplete, and 420 questionnaires were analyzed as research data.

2.2. Measures

The data collection tool was divided into three parts: The first part was the demographic form. In order to study burnout, the standard burnout inventory of Maslach and Jackson [23] was used. This 22-item questionnaire was used in three dimensions: EE (9 items), PA (8 items), and DP (5 items), and each item was scored on a 7-option scale from zero (never) to 6 (every day). For EE, the score 27 and more was considered as high, scores below 16 were low, and scores between 17 and 26 were moderate. For DP, the score 13 and more was considered as high, the score below 6 was low, and the scores between 7 and 12 were moderate. For PA, the score 31 or less was classified as low, scores more than 39 were high, and scores between 32 and 38 were moderate. Low, high, and moderate burnout levels were demonstrated by scores of ≤53, ≥79, and 54–78. The internal reliability of this questionnaire was reported by Maslach and Jackson based on Cronbach’s alpha (for the total questionnaire equal to 0.71 to 0.90, 0.90 for EE, 0.79 for DP, and 0.71 for PA) [23]. Factor validity and psychometric properties of the Persian version (translated) of the Maslach burnout inventory (MBI) were assessed by Akbari et al. (2011) in Iran. The results showed the trustworthiness of Maslach's 3-factor model. Thus, they showed that the burnout inventory could be used in burnout research in Persian-speaking Iranians [24].

Another questionnaire was the standard questionnaire of CTs, which had 22 items in 3 dimensions of social (15 items), cultural (4 items), and economic (3 items) capital. Social capital on the 5-option Likert scale was from one (very low) to 5 (very high). The scores less than 25 were classified as low social capital, scores between 25 and 35 were classified as moderate social capital, and scores above 35 were considered as high social capital. For cultural capital, 20 options were selected, ranging from zero to 20. A score of less than 7 was classified as low cultural capital, a score between 7 and 14 was considered as high cultural social capital, and a score above 14 was high cultural capital. For economic capital, the total number of questions about having welfare, attitude, and assessment of one's economic status and monthly income was divided into high, low, and moderate. For monthly income, less than 250 dollars, between 250 and 400 dollars, and more than 400 dollars were considered. The validity and reliability of the CTs questionnaire were confirmed in a study by Ahmadi S 2013: Cronbach’s alpha for cultural capital was 0.73, 0.74 for social capital, and 0.74 for economic capital. The content validity of the questionnaire was also confirmed using a 10-member panel of experts with a content validity ratio (CVR) > 0.62 and a content validity index (CVI) > 0.79 [25].

2.3. Data analysis

The data were entered into SPSS (Version 22, SPSS Inc., Chicago, IL) software, and descriptive statistics were used to express the status of the variables. The Kolmogorov-Smirnov test was used, and the data were normal at p > 0.05 level. The inferential statistics were used to determine the relationships between the variables, and multiple linear regressions were used by the Enter method for prediction. In this study, p < 0.05 was considered a significant level.

2.4. Ethical considerations

At the first stage, ethical approval was obtained from the Iran University of Medical Sciences (IR.IUMS.REC.1397.335). After receiving the letter of approval, the researcher and et al. referred to different departments of the Iran University of Medical Sciences. The researchers then referred to the people whose names were chosen as a sample and asked for their cooperation. Then, the staff who expressed their consent, received the questionnaire, and the questionnaires were completed by them. Considering the fact that university employees were literate and able to answer the questions, they were asked to complete the questionnaires themselves. Before conducting the interview, written consent
was obtained from the participants, and they voluntarily participated in the study. Moreover, the researchers explained the purpose of the study and ensured the confidentiality of the participant's personal information. They were also ensured that they had the authority to leave the study. After explaining the objectives of the research to the participants and gaining their trust, only 7 employees refused to complete the questionnaires, and 3 of them submitted incomplete questionnaires, which were deleted and completed by other samples.

3. Results

The mean age of the participants was 39.73 years, and most of them (39.5%) were in the age range of 30–40 years. Besides, 66.7% of the participants were women, and 66.2% were married (Table 1).

The study results on CTs showed that the cultural capital of 50% of the participants was moderate, 56.9% had high social capital, and 37.1% had moderate economic capital (Table 2). The mean burnout of staff was 84.42, and 45.9% had high burnout. 53.1% had high EE. DP of the participants was also high (56.6%). Also, 47.1% of the participants had low PA (Table 3).

Bivariate statistical tests were used to examine the relationships between variables by controlling for possible confounding variables. A negative and significant relationship was found between CTs (cultural, social, and economic) and burnout, i.e., as the mean score of CTs increased, burnout reduced. Also, a negative and significant relationship was found between work experience and burnout, i.e., with increasing work experience, burnout was reduced. There was a positive and significant relationship between education and burnout, i.e., with an increasing level of education, burnout was increased. A significant difference was found between mean burnout among women and men, and women had a higher burnout score than men. No significant statistical relationship was observed between age and marital status variables and burnout (Table 4).

Prior to the regression analysis, the multicollinearity assumption was examined. The results of multiple linear regression using the Enter method showed that a high correlation existed between independent and dependent variables of the study (R = 0.573). The value of the final adjusted R square (0.312) showed that 31.2% of total burnout changed in this study depended on independent variables. Thus, the effect of social capital, gender, and work experience was higher than other variables, and these three variables contributed more to the explanation and prediction of the burnout index (Table 5).

4. Discussion

According to the results of the study, the prevalence of burnout was 45.9%. Similar to our results, a study conducted by Karami Matin B et al., 2014 showed that about 40% of women nurses had high burnout with a mean burnout of 42.3 [18]. In a study conducted by Richard J and Peter E 2004, about 50% [26], and Zubairi A and Noordin Sh 2016, about 75% of participants had high burnout [27]. The results of the present study on burnout dimensions showed that EE and DP of participants were high with 53.1% and 56.6%, respectively, and 47% had low PA. These results are consistent with other studies. In the studies conducted by De Francisco C et al., 2012 and Khammarnia M et al, 2012, EE and DP of participants were high, and PA was low [5, 28]. The factors such as high workload, workplace stress, low salaries, and benefits can play a role in staff burnout.

Among the demographic variables in this study, gender was significantly related to burnout, and women suffered more from burnout than men. This finding is consistent with most of the previous studies [19, 29, 30, 31]. In this study, higher burnout in women may be influenced by a larger sample, but also because of the work pressures, work-family conflict situations that exposed working women to burnout-exacerbating factors, like severe psychological stress. In Iran, women still face many challenges, and many men disagree with women about working outside the home, which can put a lot of pressure on women. Moreover, a culture that leads women to do more household chores can increase the burden on women.

Work experience is another variable that had a significant relationship with burnout in this study. The results of various studies had reported a relationship between burnout and work experience [32, 33, 34].

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Table 1. Participant's demographic information (n = 420).

| Variables Groups | N (%) |
|------------------|-------|
| **Age (years)**  |       |
| <30              | 61 (14.5) |
| 30–40            | 166 (39.5) |
| 41–50            | 135 (32.2) |
| >50              | 58 (13.8) |
| **Gender**       |       |
| Male             | 280 (66.7) |
| Female           | 140 (33.3) |
| **Marital Status** |   |
| Single           | 142 (33.8) |
| Married          | 278 (66.2) |
| **Education Level** |     |
| ≤Diploma         | 44 (10.5) |
| Associate Degree | 45 (10.7) |
| Bachelor's Degree| 156 (37.1) |
| ≥Master of Art   | 175 (41.7) |
| **Income (dollar)** | |
| <250             | 82 (19.6) |
| 250–400          | 164 (39) |
| >400             | 129 (30.8) |
| **Work Experience (years)** | |
| <10              | 140 (33.3) |
| 10–20            | 175 (41.7) |
| >20              | 105 (25) |
With the increase of experience, individuals learn to cope with stress and working conditions in an effective way and create strategies to control and reduce it.

Another finding of this study was a significant and positive relationship between education level and burnout, i.e., individuals with higher education reported higher levels of burnout. In line with the findings of our study, the results of other studies confirmed the same outcomes. In a study conducted by Kouhpayezede J et al., 2011, the level of education was significantly related to burnout, and individuals with higher education had higher burnout [29]. The reason for higher burnout among individuals with higher education was that, as the level of education increased, expectations from the job itself increased; when these expectations were not met, then the feelings of failure and dejection could precipitate burnout.

One of the interesting results of our study was that the type of capital in all three dimensions had a significant relationship with burnout, and this relationship was inverse. In fact, this finding added to the previous studies that not only social capital but all dimensions of capital could have a significant relationship with burnout. Similar to our results, a negative and significant relationship was found between CTs (social, economic, cultural) and burnout in a study conducted on women nurses at Kerman University of Medical Sciences [18]. A study conducted by Khodabakhsh M and Mansuri P 2011 also showed a significant inverse relationship between economic and social status and burnout [35]. Among CTs, the relationship between social capital and burnout was further investigated in several studies, and the importance and preventive role of social capital had been emphasized [32, 36, 37]. The study results of Hador B 2016 and Harjanti D 2019 showed that social capital

| Types           | Cultural Capital N(%) | Social Capital N(%) | Economic Capital N(%) |
|-----------------|-----------------------|---------------------|-----------------------|
| Low Capital     | 161 (38.3)            | 66 (15.7)           | 91 (21.7)             |
| Moderate Capital| 210 (50)              | 115 (27.4)          | 156 (37.1)            |
| High Capital    | 49 (11.7)             | 239 (56.9)          | 148 (35.2)            |

| Dimension      | EE N (%) | DP N (%) | PA N (%) | Burnout N (%) |
|----------------|----------|----------|----------|---------------|
| Low            | 59 (14)  | 49 (11.7)| 198 (47.1)| 76 (18.2)     |
| Moderate       | 138 (32.9)| 133 (31.7)| 139 (33.1)| 151 (35.9) |
| High           | 223 (53.1)| 238 (56.6)| 83 (19.7) | 193 (45.9) |

| Variables      | Coefficient | P.value | Correlation with Burnout |
|----------------|-------------|---------|--------------------------|
| Cultural Capital| - 0.300     | 0.001*  | Yes                      |
| Social Capital  | - 0.254     | 0.001*  | Yes                      |
| Economic Capital| - 0.058     | 0.04*   | Yes                      |
| Age             | 0.93        | 0.08    | No                       |
| Work Experience | - 0.107     | 0.04*   | Yes                      |
| Education Level | 0.222       | 0.001b  | Yes                      |
| Gender          | - 0.505     | 0.001c  | No                       |
| Marital Status  | 1.031       | 0.3     | No                       |

* Pearson.
b Spearman.
c T-test.

| Independent Variables | B   | SE  | Beta  | t     | P.value |
|-----------------------|-----|-----|-------|-------|---------|
| Constant              | 53.154 | 5.803 | -    | 9.159  | 0.001   |
| Age                   | 1.015 | 0.014 | 0.098 | 0.596  | 0.125   |
| Gender                | 9.232 | 1.977 | 0.284 | 4.670  | 0.001   |
| Marital Status        | 0.170 | 0.306 | 0.027 | 1.554  | 0.578   |
| Work Experience       | - 0.478 | 0.132 | - 0.220 | - 3.612 | 0.001   |
| Education Level       | 2.909 | 1.044 | 0.164 | 2.787  | 0.006   |
| Economic Capital      | - 0.645 | 0.161 | - 0.092 | - 1.557 | 0.121   |
| Social Capital        | - 0.522 | 0.116 | - 0.285 | - 4.486 | 0.001   |
| Cultural Capital      | - 0.725 | 0.318 | - 0.138 | - 2.280 | 0.023   |

F = 19.95, R = 0.573, R² = 0.312
had a positive and significant effect on staff’s task accomplishment, and increasing social capital would lead to increased task accomplishment [31, 38]. Capital, in general, in all three types (social, cultural, and economic) played an essential role in preventing burnout. While various studies showed the importance of social capital, the present study showed the importance of the other two dimensions of capital. Therefore, it was suggested to consider not only social capital but also other dimensions of capital in future studies to analyze burnout. Individuals with better economic conditions will have less burnout. Also, knowledge and access to cultural goods and symbols could prevent burnout. Furthermore, the low level of social capital played a role in creating and intensifying burnout, and a higher level of social capital led to a positive workplace and increased staff satisfaction and interaction. The individuals who were constantly interacting with others would build stronger trust-based relationships and facilitate social interactions, and form common goals and values in the organization. The strong social capital in the workplace allowed staff to feel better, have more energy, and finally perform better.

5. Strengths and limitations

The investigation of the relationship between CTs (social, cultural, and economic) and burnout of staff was the strength of this study. One of the limitations of this study was the sensitivity of the topic of burnout and the difficulty and timeliness of obtaining the consent of university officials and staff. A further limitation was the fact that we sampled only one university, and our results were true for this particular university, but we could not generalize to other different universities with different work patterns and environments.

6. Conclusion

This study showed that the prevalence of burnout among university staff was high, and in addition to CTs, variables such as work experience, education, and gender were related to burnout. Increasing capital at all three cultural, economic, and social levels should be considered by arranging cultural activities, providing opportunities for access to cultural goods, and raising staff’s knowledge level. Besides, increasing income and workplace safety level, forming informal groups and strengthening interpersonal relationships among staff, arranging leisure facilities, holding in-service courses and counseling sessions on coping and burnout reduction strategies, strengthening problem-solving skills, and introducing anxiety management methods for employees will be beneficial in alleviating this challenge.

Declarations

Author contribution statement

J. Yoosofi Lebni is correct: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.
S. F. Irandoost: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Wrote the paper.
F. Chaboksavari: Performed the experiments; Contributed reagents, materials, analysis tools, or data.
S. Khalili: Analyzed and interpreted the data; Contributed reagents, materials, analysis tools, or data; Wrote the paper.
G. Soofizad: Performed the experiments; Analyzed and interpreted the data; Wrote the paper.
N. Mehed: Contributed reagents, materials, analysis tools, or data; Wrote the paper.
M. Solhi: Conceived and designed the experiments; Wrote the paper.

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Data availability statement

Data will be made available on request.

Competing interest statement

The authors declare no conflict of interest.

Additional information

All procedures performed in current study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Written consent was obtained from all participants and included permission to take quotes from their interviews.

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