Original Article

Validity and Reliability of the Persian Version of the Maslach Burnout Inventory (General Survey Version) in Iranian Population

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Abstract

Background: One of the most important adverse effects of a psychosocial process is burnout. There are 2 versions of the Maslach burnout inventory which have been standardized and used in different studies in Iran, with each focusing on a specific population.

Objectives: The present study aimed at standardizing the third version of this tool.

Methods: In this cross sectional study, 331 Iranian staff was included in the final analysis using multistage sampling method in 2011. Exploratory factor analysis using SPSS Version 17 and confirmatory factor analysis using the Lisrel 8.8 were used to assess the domain structure of the Maslach burnout inventory- general survey (MBI-GS). Internal consistency reliability was assessed with Cronbach's alpha. The CVI and CVR were used to assess content validity.

Results: The item total correlation and internal consistency (total alpha) were 0.79, 0.85, and 0.87, respectively. The interclass correlation coefficient was 0.87, which indicated good test retest reliability (r = 0.87, P < 0.01). The construct validity of the scale was obtained using exploratory factor analysis, showing 3 factors with Eigen values greater than 1 (1 and 5 items: α = 0.72; 2, 4 items: α = 0.78; 3, 6 items: α = 0.69). In confirmatory factor analysis, the original three-factor model of MBI-GS was adequate (X^2/df = 582.9/74; goodness-of-fit index = 0.86; root mean square error of approximation = 0.05; and comparative fit index = 0.89).

Conclusions: Our expectations were largely supported by the results, which suggested that the meanings of the 3 subscales were completely different. Our results largely replicated the findings achieved by similar studies on the validity and reliability of the general survey version of the MBI.

Keywords: Burnout, Confirmatory Factor Analysis, Exploratory Factor Analysis, Maslach Burnout Inventory

1. Background

One of the most important adverse effects of a psychosocial process is burnout, a process that has originated from the psychosocial nature of today's society, covering job framework and the context of the society. The high speed of life, the changing market, economic structures, and demands for improving the quality of work have all been mixed with breaking the psychological contact to cause burnout to people and organizations (1). Based on the reports of the world health organization, burnout would be a global pandemic within the next decade (2), estimating that more than $300 billion would be lost annually due to the following factors that are considered as the global burden of burnout: decreased productivity, retention, absenteeism, and compensation costs (3). Previous studies have found that burnout is related to high work-

load, as well as lack of participation, and social support at work (4, 5). In the past 30 years, the researchers and managers' interests in the problem of burnout have strongly increased due to its negative effects on the staff (2).

If we look into the history of the term burnout, we may mention 1970s when the researchers were trying to find a word to express the psychological reality of a person in his/her workplace. Using the term burnout was reported at first by Herbert Freudenberg, a clinical psychologist, (3) in a series of articles related to psychological issues (4). It seems that the origin of the word burnout started from the perspective of illicit drug use. In this perspective, burnout is defined as the physical effects of acute drug abuse, moreover, the counselors and therapists who worked on drug addiction used this term to describe stress and psychological destruction of themselves (4). In the tenth revi-

sion of the International Classification of Diseases (ICD10), the term burnout was described under Z.73.0 as follows: "burnout - state of total exhaustion" (5). Several scientific papers have been published on burnout. For example, Perlman and Hartman stated that in 1982, only 48 articles have been published on burnout. However, in 1994 Duquette et al. reported that more than 300 articles had been printed on burnout. Moreover, a bibliography was conducted on the literature of burnout by Boudreau and Nakashim in 2002 and revealed thousands of articles conducted on this topic, suggesting that interest in this issue will never end among the researchers, especially those of health psychology (6-8). Although the emergence of the burnout concept, as we know it today, began in the 1970s, this does not mean that burnout suddenly emerged in this period. The relationships people have in their workplace and the problems that could occur from the disruption of these relationships have existed long before, so they should be considered as an important phenomenon in human life.

From the perspective of Maslach and Jackson, burnout reduces the adjustment power due to the physical and emotional stressors and fatigue syndrome. This syndrome leads to one's negative self-concept, negative attitudes towards work, and lack of communication with others (client, customer, applicants) (9). These syndromes may lead a person to a variety of mental and physical illnesses. Depending on its duration and intensity, burnout has often more negative social consequences. These negative effects include withdrawal from the workplace (which is commonly called self-resignation), or the impact on private life (sexual problems with a partner and social isolation). From the social perspectives, burnout might result in increasing the risk of long and frequent absenteeism, and early corruption (5). In fact, job burnout has series of consequences at the individual, work, and organization level which are as follow: as the individual level (burnout, chronic fatigue, weariness, mental confusion, anxiety, depression, psychosomatic complaints, increased use of toxic substances, extend to private life, and doubting their ability to accomplish a task); at the work level (job dissatisfaction, reduced organizational commitment, and intention to leave the job,); and at the organization level (increased absenteeism, reduced work performance, and reduced quality of services) (10). Depression could be defined as a way of reacting to issues the employees deal with and perceived as impossible, and a clinical mental disorder, could especially be seen in melancholy state (11). Schaufeli and leiter concluded that burnout is a multidimensional structure and it is composed of 3 interrelated components (11). These components are as follow:

The first component is related to the emotional atrophy, emotional exhaustion or emotional forces in a person.

At this level, the person gradually loses his/ her motivation due to exhaustion, and gets bored with the job. Among these 3 elements, this one is always the primary symptom of burnout (12). Moreover, other burnout elements arise by falling into this pitfall (13).

The second component is a negative response to detachment from the work and the environment of the person; the person gains a pessimistic view to himself, his work, and anything related to his work environment.

The third component is related to the reduced professional efficacy that has attracted less attention. The person feels he is not successful in his/her job. More precisely, in this component, performance or achievement (perception) of the person is flawed, not his actual performance and success. In the perspective of Garden (1987), personal success also shows some aspects of self-efficacy, that is the person's ability to maintain control on the operation and skills in his/her performance. Therefore, the success of individuals has a positive relationship with self-efficacy, and a negative relationship with learned inability.

Accordingly, in Maslach theory, burnout is a set of 3 psychological variables; and we used the term burnout to show that a person suffers from emotional exhaustion, depersonalization, and reduced professional efficacy. Although these symptoms are associated with each other, they are less simultaneous in response to work related stress. These 3 components are separated in concept and they are empirically related to each other (14). Based on this approach, Maslach and Jackson (1981) created a 22-item questionnaire to measure the various aspects of burnout. The questionnaire was only allocated to those who worked in human service professions (9). In 1996, Maslach et al. concluded that the questionnaire and its items could generalized to the population of staffs whose work is not related to human services (12).

Thus, burnout inventory was designed in 3 areas: (1) the Maslach Burnout in Human Services Survey (Health Issue) (MBI-HSS), (2) the Maslach Burnout in Educators Survey (MBI-ES), and (3) the Maslach burnout inventory general survey (MBI-GS). The use of such lists in the Iranian society, which has been collected and redesigned in another culture calls for the examination of its validity and reliability. This questionnaire has been evaluated in several papers, with a review of the literature on burnout (13, 15, 16). However, what has been ignored is that there are 3 types of Burnout Inventory, each defined for certain professions. However, it was found that in several studies, the Burnout Inventory GS HSS version was used without considering the specific occupations of the staff, meaning that the versions for each population have not been used properly in the previous researches. Thus, this study aimed at evaluating the psychometric properties of the MBI-GS fill, its

gaps in the relevant researches, and taking a step to correct past studies. This attempt helped add to our knowledge of burnout and its correlation between other variables.

2. Objectives

The present study aimed at evaluating the validity and reliability of the Persian version of the Maslach burnout inventory (general survey version) in the Iranian population.

3. Materials and Methods

3.1. Participants

This cross sectional study included a total sample of 331 individuals. Although there are no standard rules to calculate the sample size for exploratory factor analysis (EFA), the recommended common standard is to include at least 100 participants (17). A ratio of at least 10 individuals for every factor is desirable to generalize from the sample under study to a target population. Thus, the sample size yielding 160 individuals is adequate for the proposed factor analysis (18, 19). However, due to the feasibility to access the target population and to gain more statistical power, we included 331 individuals in this study.

The study population included all factories and general professions staff who worked in office environments and were involved with industrial tools. The multistage sampling method was used to include the individuals. At the first step, we used the random cluster sampling to select 11 provinces and 13 cities from different areas of Iran. In the next step, we selected some organizations and industries in every city according to their population size. In addition, random sampling method was used to select the individuals in every organization and industry. After confirming the translation of the questionnaire during 11 months (April to February 2011), the Persian version of the burnout questionnaire was distributed to 331 employees of different professions, with the exception of human service professionals and educators (Table 1). Our criteria for inclusion and exclusion were the minimum age of 20 and maximum of 60, having at the least ability to read and write, and not having a history of inpatient and outpatient psychiatric treatment. All participants filled an informed consent form, and instead of writing the name of the participants on the questionnaire, they were given a specific code in case they wanted to be informed of their test results; this was also done to assure their anonymity and privacy. After contacting the factories and the mangers, we provided the inventories to persons by means of various methods including pen and paper and combination versions of a

web page. In the final round, 331 questionnaires were completed and were used in the final analysis. The total number of 331 individuals were enrolled in the study; of them, 209 (63%) were male. Participants' ages ranged from 20 to 60 years. Of the participants, 137 (41%) were single and 194 (59%) married. The average length of the participants' employment was up to 7 years and 9 months (SD = 5 years and 3 months). In response to the question about job satisfaction, 177 (53%) participants expressed satisfaction and 154 (47%) dissatisfaction. Individual business areas included 6 types of work, which are as follow: (1) administrative and financial; (2) social affairs; (3) services; (4) agriculture and environment; (5) engineering; and (6) data processing (Job classification based on job classification plan that was passed in the second program of socioeconomic development of Iran,s parliament.).

3.2. Measures

Filling the burnout inventory (GS version) takes approximately 5 to 10 minutes. This questionnaire is self-administered. Grading the questionnaire is assessed by calculating the average score for each question, with the scores ranging from 0 to 6. The response for each question ranged from never to every day (never = 0; several times = 1; once a month = 2; several times a month = 3; once a week or less = 4; several times a week = 5; and everyday = 6).

3.3. Maslach Burnout Inventory (General Survey Version)

Maslach burnout inventory of other professions version (GS version) includes 16 items that covers 3 infrastructures or components of emotional exhaustion (Items 1, 2, 3, 4, and 6), cynicism (Items 8, 9, 13, 14, and 15), and feeling professional efficacy (items 5, 7, 10, 11, 12, and 16).

3.4. Procedures

The items of the questionnaire were given to a person holding a master's degree in translation to translate it from English to Persian. After the Persian translation was provided, 2 questionnaires (English and Persian) were given to 5 faculty members of Ferdowsi University of Mashhad who held PhD in psychology and behavioral sciences and to the members of their psychology faculty; of them, 4 were males and 1 was a female. After matching the Persian translation with the original text, the validity of the evaluators was estimated and this index reached an acceptable level. Then, the translated text was again given to a person having a master's degree in English translation and it was back translated into English. No significant difference was observed between the words and sentences of the original questionnaires in the 2 stages.

Table 1. Number of Participants Based on Their City

Number	City	Frequency	Number	City	Frequency
1	Mashhad	88	8	Qom	5
2	Isfahan	40	9	Yazd	4
3	Birjand	14	10	Mahshahr	10
4	Tehran	99	11	Tabriz	6
5	Shiraz	41			
6	Ali abad	12		**Total**	331
7	Gorgan	12			

3.5. Statistical Analysis

To examine MBI, following the similar researches about factor analysis of the questionnaire in other languages, the SPSS version 17 and confirmatory factor analysis, and the Lisrel 8.8 were used for exploratory factor analysis. Classification of severity in indices of burnout inventory based on the average number is presented in Table 2.

Table 2. Scoring Severity Index Scales Based on the Average Score

Scale	Less Severe	Moderate Severe	High Severe
Emotional exhaustion	0 - 1.6	1.6 - 3	3 - 6
Cynicism	0 - 1	1 - 2.4	2.4 - 6
Professional efficacy	0 - 4.2	4.2 - 5.2	5.2 - 6

4. Results

The mean age of the participants was 38.22 (SD = 11.5) years, with a range of 20 to 60. In this sample, the mean age of education years was 15 (SD = 3).

4.1. Content Validity

Content validity index (CVI) was used to assess content validity. To evaluate this measure, 5 faculty members of Ferdowsi University of Mashhad reviewed the questionnaire. They rated whether the questions could assess the question construct by a 3-point construct. CVI was computed through scores ranging from 0 (no agreement) to 2 (perfect agreement) [20]. Content validity ratio (CVR) was obtained approximately 87% for all the questions. CVI was calculated by determining the mean CVR for all the remaining items [21]. In the present study, CVI was obtained to be 87%. Therefore, all questions had high content validity.

4.2. Reliability

The MBI-GS showed a range of 80% to 94 % interrater agreement and reliability. Internal consistency was evaluated by coefficient Cronbach's Alpha, which was 0.87. The item total correlation was measured 0.79 and 0.85, except for Item 13 (Table 3). These 2 values of internal consistency and item total correlation were considered as a high reliability. To measure test-retest reliability, we asked 30% of our sample population (mean age 32.2 $\pm$ 8) to repeat MBI-GS after 5 weeks (Median 32 days). The results revealed an interclass correlation coefficient of 0.87, and MBI-GS have known to have good test-retest reliability (r = 0.87, P < 0.01). The interrelation correlations between the subscales of burnout questionnaire were as follow: Cynicism is strongly related to emotional exhaustion (r = 0.51; P < 0.001), but professional efficacy is negatively and weakly correlated to cynicism (r = -0.32; P < 0.001) and emotional exhaustion (r = -0.28; P < 0.001).

Table 3. Item Total Correlation for Each Item on (MBI-GS)

Item	Item-Total Correlation	Item	Item-Total Correlation
1	0.81	9	0.84
2	0.83	10	0.85
3	0.82	11	0.81
4	0.79	12	0.8
5	0.81	13	0.51
6	0.8	14	0.83
7	0.82	15	0.84
8	0.84	16	

4.3. Exploratory Factor Analysis

Before conducting the exploratory factor analysis, the Kaiser-Meyer-Olkin (KMO) and Bartlett's test were used to ensure the appropriateness of data to be used in this

method. This test indicates the proportion of variance in the variables that might be caused by underlying factors. The KMO close to 1 indicates that factor analysis can be an appropriate test, and KMO close to 0 indicates that another form of analysis should be performed on the data (22). In the present study, KMO test value was 0.865 (KMO < 0.05), indicating that factor analysis was an appropriate test for this study. In addition, the results of the Bartlett's test showed the strength of the relation among the variables. The Bartlett's test value was equal to 2393.89 (P = 0.01), indicating a correlation between variables and the suitability of data for factor analysis. In study results based on Kaiser Criteria (eigenvalues greater than 1) and the test minimum load of 0.4 (23), there were 3 factors with eigenvalues greater than 1. Thus, the 3 factors extracted from the variables could respectively explain 37.8%, 16.31%, 7.29%, and 61.42% of the total variance (Table 4). At this point, the authors concluded that a 3-factor specification was the best for the data.

By analyzing the factor structure of the Maslach burnout inventory, we found that 5 factors loaded on component 1, 4 items on component 2 and 6 items on component 3, and 1 item on component 4. The factors in the first component included Items 2, 1, 3, 4, and 6 and were related to the emotional exhaustion subscale. The factors in component 2 included Items 8, 9, 14, and 15 and were related to Cynicism subscale. The factors in component 3 included Items 5, 7, 10, 11, 12, and 16 and were related to professional efficacy subscale; and the factor in component 4 included Item 13 and failed to load on any component.

Because the suitability of the 3-factor structure was confirmed by similar studies and given that Factor 4 explained only 6% of the dispersion, exploratory factor analysis was repeated but limited to 3 factors. The results revealed that 58.2% of the total variance was explained by these factors. Item 13, which was the only in the factor 4, has been charged at this stage in each of the 3 factors (Table 5), which was excluded from the research (24).

A scree plot inspection, therefore, exhibited 3 distinct components in our data (Figure 1).

4.4. Confirmatory Factor Analysis

According to the findings, it seems that the Persian version of the 3-factor model questionnaire survey of the MBI-GS will be the best model. Another factor analysis was used to develop the findings (13), thus, the factor structure of the questionnaire was evaluated using confirmatory factor analysis. The items in MBI-GS and their associating factors and their parameter estimates in the final model are displayed in Table 7, and the results of CFA are presented in Table 8.
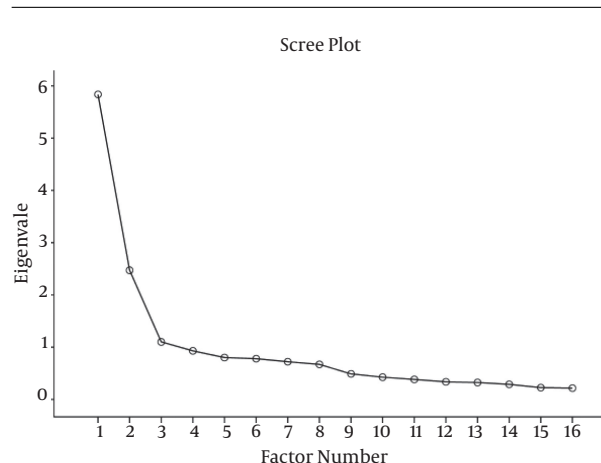

Figure 1. The Scree Plot for Eigenvalues Associated with a Number of Factors in a Descending Order

In the first step of the confirmatory factor analysis, the single-factor model, all the variables observed in job burnout were related to a factor that has been tested. Then, according to the 2-factor model, in which emotional exhaustion and cynicism are offered as a factor, the 2-factor mode was tested and was again evaluated in the 3-factor model proposed by Maslach and Jackson (9). Finally, another model that was entered was the 3-factor model without Item 13; the results of these tests are displayed in Table 8. Using absolute and relative indices, we evaluated the goodness- of-fit of the above models. The absolute goodness-of-fit indices calculated were as follow (25): (1) the X^2 goodness-of-fit statistic; (2) the root mean square error of approximation (RMSEA); and (3) the goodness-of-fit index (GFI). The X^2-test was the best test to differentiate between the observed covariance matrix and the one predicted by the specified model. Those nonsignificant values could be interpreted as a hypothesized model fitting the data. One of the disadvantages of this index is its sensitiveness to sample size, which is increases the probability of rejecting a hypothesized model as the sample size increases. Moreover, the solution that could be suggested is the computation of relative goodness-of-fit indices (26).

Nonetheless, the fit of the 3-factor model without Item 13 is significantly better than the other models (compared to model 1: $X^2(30) = 1918$, P < 0.001; model 2: $X^2(30) = 23.7$, P < 0.001; model 3: $X^2(27) = 346$, P < 0.001). The next fit indicator in Table 8 is the root mean square error approximation (RMSEA). RMSEA values less than 0.05 show fitness model (27), and in our models, it was shown that the best one fitted in this dimension was the 3- factor model without Item 13. The last absolute goodness-of-fit index was goodness- of- fitness index (GFI), which measures the vari-

Table 4. Percentage of the explained Variance with Each Factor After Circulation

Factors	Eigenvalue	% of Variance	Cumulative % of Variance	Cronbach's a
Cynicism	5.67	37.8	37.8	0.78
Emotional exhaustion	2.44	16.31	54.12	0.72
Professional efficacy	1.09	7.29	61.42	0.69

Table 5. Component Analysis of the Basic Factors with Varimax Circulation in the Burnout Questionnaire

Items	Components			
	1	2	3	4
2	0.838			
1	0.812			
4	0.755			
3	0.691			
6	0.549			
15		0.743		
14		0.742		
9		0.737		
8		0.706		
16			0.786	
10			0.722	
5			0.674	
11			0.667	
7			0.648	
12			0.524	
13				0.899

Table 6. Component Analysis of the Basic Factors Limited to 3 Factors of the Burnout Questionnaire

Items	Components		
	1	2	3
15	0.80		
14	0.73		
9	0.7		
8	0.66		
2		0.73	
1		0.72	
4		0.68	
3		0.61	
6		0.53	
16			0.69
10			0.66
13	0.31		0.158
5			0.64
11			0.6
7			0.53
12			0.52

ance and covariance elaborated together with the model (23). Values greater than 0.9 in GFI indicate the goodness-of- fit of the model. When examining the results, we found that none of the models had this threshold. However, given that the higher values of GFI indicate better fitness of the model, the 3- factor model without Item 13 in this index was equal to 0.86, showing more fitness than other models.

The items of relative goodness-of-fit indices computed were as follow (28): (1) non-normed fit index (NNFI), also called the tucker lewis index (TLI); and (2) comparative fit index (CFI). The NNFI, which in addition considers model parsimony, could fall outside this range due to sampling fluctuation. Finally, the CFI is a population measure of model misspecification that is particularly recommended for model comparison purposes (29). For all the relative fit indices, as a rule of thumb, values greater than 0.90 indicate a good fit (30). Considering the relative goodness-of-fit

indices, the model with 3 factors were better than models with 1 and 2 factors, and the model with 3 factors without Item 13 showed the best fit: CFI and NNFI approached 0.9.

Broadly speaking, 5 fit indicators are presented in Table 8, indicating that the 3-factor model fit without Item 13 showed the best fit indices for the data. In other words, the Persian version of the MBI-GS shows 3 components that Maslach and Jackson (9) have presented.

In Table 8, the first number represents the amount of variable load viewed on the relevant factors. The second number is the indicator of the t-statistic that shows the sufficiency of variable enough to stay in the test model. T-values greater than 1.96 is a significant value, showing the sufficiency of the variable (23). All the 15 variables of MBI-GS have enough sufficiency to stay in the model, so the 3-factor structure of the 15 items of the Burnout Inventory (excluding Item 13) is approved.

Table 7. Parameter Estimates for the MBI-GS (the Three-Factor Model)

Variables	Estimate	S.E.	Std.Est
Factor 1: Emotional exhaustion			
Item 1	1.00		0.73
Item 2	1.03	0.02	0.76
Item 3	0.96	0.02	0.70
Item 4	0.98	0.02	0.72
Item 6	0.96	0.02	0.70
Factor 2: Cynicism			
Item 8	1.00		0.76
Item 9	1.01	0.02	0.77
Item 14	1.01	0.02	0.77
Item 15	1.03	0.02	0.79
Item 13	0.58	0.02	0.47
Factor 3: Professional efficacy			
Item 5	1.00		0.72
Item 7	0.95	0.02	0.69
Item 10	1.01	0.02	0.73
Item 11	0.98	0.02	0.70
Item 12	0.94	0.02	0.68
Item 16	1.04	0.02	0.76

Abbreviations: Estimate, Unstandardized Parameter Estimate; S.E., Standard Error; Std.Est, Standardized Estimate.

In the factor analysis, this value, without Item 13, was equal to 0.89. Thus, it seems that the 3-factor model and the 3-factor model without Item 13 better fit the data than the other 2 models (Table 8).

5. Discussion

The present study was conducted to resolve the common misconceptions about measuring burnout in previous researches. MBI has 3 versions, and the reliability and validity of the 2 versions were assessed by researchers in Iran. However, the third version of the public service has been ignored by the researchers whose samples have been targeted by the third questionnaire, even though they were evaluated by the 2 other questionnaires. Therefore, this study aimed at filling this gap and investigating the factor analysis of the questionnaire to assess competence of the Iranian example.

Confirmatory and exploratory factor analysis findings suggest that the 3-factor model (without Item 13) of MBI had the most appropriateness with the existing data. This

finding has in fact proved the competence of the questionnaire to measure job burnout in different professions, except human service professionals and educators) in this research. In fact, this finding has proved the competency of this questionnaire to measure staff job burnout in different professions in this research, except human service professions.

Conducting exploratory factor analysis before confirmatory factor analysis was one of the features of the present study. Moreover, when exploratory factor analysis was conducted, it was found that 1 test substance had a relatively high and the same factor load in more than 1 factors. This material was removed in the 3- factor analysis model during the confirmatory factor analysis. Comparisons carried out in the previous section revealed that removing this material would provide better results.

Our study replicated Leiter and Schaufeli's (1996) findings by providing evidence for the MBI-GS's factor structure for those groups working with objects and information.

Although the results of the present study do not differ from those of the previous researches, in the process of testing the validity and reliability of each questionnaire, the influencing cultural factors should be considered. Thus, similar studies in different countries with diverse cultures may remove some items in their studies (31, 32). This may be related to to the cultural sense of that item more than just the literal meaning just similar to the items that were excluded in the study (ei, the item, "I'm just trying to handle my own affairs and do not do it for others."), which probably means independence and efficiency in the Iranian culture. On the other hand, it means the person is pessimistic about the environment and his coworkers, as in both cynicism and professional efficacy have allocated factor loading.

In the model underlying the MBI-GS, cynicism in this context is developed to make it different from its exhausting demands. In this regard, we could find a dysfunctional element called cynicism that diminishes the energy accessible for the employee and for his problem solving skills. Therefore, in a negative correlation, cynicism decreased the job potentiality for creating professional efficacy (33).

This study had some strong points and limitations. The major strong points of this study were high statistical power because of its large sample size, sampling was done in various provinces from different geographic areas of Iran, and our cluster random sampling resulted in a representativeness of our sample. In addition, we could point out to our panel expert consisting of those who had a PhD degree in psychology and behavioral sciences and PhD of epidemiology who helped us to design the study. This study had some limitations, which are as follow: us-

Table 8. Goodness-of-Fitness Indicators of the Models for Burnout

Goodness-of-Fitness Indicators	One Factor	Two Factors	Three Factors	Three Factors Without Item 13
X^2.(df)	2500.9 (104)	606.6 (44)	928.9 (101)	582.9 (74)
CFI	0.52	0.72	0.84	0.89
NNFI	0.53	0.63	0.65	0.71
RMSEA	0.14	0.12	0.089	0.05
GFI	0.72	0.81	0.84	0.86

Table 9. Factor Loading Estimates and T-values for the 3 Factor Models (Without Item 13)

	Factors (Sub structures)		
Items	Emotional Exhaustion	Cynicism	Professional Efficacy
1	0.7 (17.87)		
2	0.71 (14.36)		
3	0.59 (13.66)		
4	0.62 (12.7)		
6	0.51 (10.1)		
8		0.63 (17.4)	
9		0.7 (19.1)	
14		0.72 (22.3)	
15		0.8 (24.4)	
5			0.66 (25.13)
7			0.51 (16.24)
10			0.61 (24.37)
11			0.59 (17.3)
12			0.5 (16.11)
16			0.6 (24.11)

ing a self-rating scale, which was a major limitation and using in-depth-interviews to explore the mental status of the employees. Most workers in industries and organizations were male (34), and the inequality between male and female participants was one of the limitation of our study. Furthermore, the high number of non-response questionnaires was another limitation of our study.

Footnotes

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