Modeling Occupational Burnout Based on Job Stress With the Mediating Role of Psychological Capital and Coping Strategies Among Nurses

Sajad Sohrabijam1*, Rozita Amani1*, Mehran Farhadi1*, Tahereh Haghtalab1

1. Department of Psychology, School of Economics and Social Sciences, Bu-Ali Sina University, Hamadan, Iran.

ABSTRACT

Background: Occupational burnout is one of the factors that can significantly decline the performance of nurses, and can be influenced by various factors.

Objectives: The present study seeks to model occupational burnout based on job stress with the mediation of psychological capital and coping strategies used by nurses.

Materials & Methods: The present correlational article falls into the category of descriptive-cross-sectional studies. The population of the study includes all nurses working in public hospitals of Kermanshah province. A total of 404 nurses selected through random cluster sampling participated in the study. Demographic Information Questionnaire, Nursing Stress Scale, Maslach Burnout inventory, The Coping Inventory for Stressful Situations and psychological capital questionnaire were used for data collection purposes. The collected data were analyzed using SPSS software, version 24 and Amos software, version 24.

Results: The results showed that the proposed model had an acceptable goodness of fit ($\chi^2$/df=3.05, GFI=0.90, CFI=0.93, RMSEA=0.07). The results suggest that occupational stress with the mediating role of problem-focused coping ($\beta=0.028$, $P=0.001$), emotion-focused coping ($\beta=0.069$, $P=0.001$), avoidant-oriented coping ($\beta=0.046$, $P=0.001$) and psychological capital ($\beta=0.144$, $P=0.001$) can indirectly affect nurses’ occupational burnout.

Conclusion: Job stress affects nurses’ burnout directly as well as through the mediation of problem-focused coping, emotion-focused coping, avoidant-oriented coping and psychological capital. Accordingly, authorities are advised to organize training courses to improve coping strategies and psychological capital of nurses and thereby mitigate the effect of occupational stress.

Keywords: Coping strategies, Job stress, Nurses, Occupational burnout, Psychological capital
1. Introduction

Occupational burnout has long been recognized as an occupational hazard in various client-centered occupations, such as human services, education, and health care [1]. Occupational Burnout is a syndrome caused by chronic workplace stress that has not been successfully managed [2]. This problem emerges as a long-term response to chronic interpersonal stressors in the workplace [1]. Nursing is one of the most stressful jobs [3, 4]. Therefore, the health of nurses can be affected by the dire consequences of stress, as one of the most important predictors of occupational burnout [5].

Various domestic studies conducted in Iran show symptoms of occupational burnout in more than one third of nurses [6]. Depletion of energy and personal resources, as the distinguishing characteristics of occupational burnout, have turned it into an important health threatening diseases [7]. Therefore, in order to successfully cope with stressors, one must have sufficient resources to exercise individual and/or collective control over external events, conditions and processes [8]. Studies show that psychological capital can serve as a reliable source in attempts to deal with nurses’ occupational burnout [9].

Psychological capital, which is a manifestation of economic capital, refers to resources invested for expected future returns [10]. An obvious support for the structure of psychological capital can be found in the theory of conservation of resources (COR) [11]. According to the conservation of resources theory [12], people strive to obtain, retain, foster, and protect those resources they centrally value. Also, according to the job demands-resources (JD-R) model, occupational resources may buffer the influence of job demands on stress [13]. Gong et al. stated that psychological capital plays a protective role and job stress plays a risky role in occupational burnout [14].

Coping strategies are among the strategies used to reduce vulnerability to occupational burnout [15]. The main and well-known coping strategies are: 1- Problem-focused coping which seeks to solve the problem or take action to change the source of stress. 2- Emotion-focused coping, which is meant to reduce or manage emotional distress related to a specific situation [16]. Avoidant-focused coping is also one of the strategies used in this field [17]. According to Folkman’s stress coping model [18, 19], coping styles can generally be classified into problem-focused coping and emotion-focused coping styles. Problem-focused coping refers to strategies used to deal with problems that cause emotional distress (such as problem solving, help-seeking, and cognitive restructuring), while emotion-focused coping specifically refers to strategies that regulate negative emotions. (Such as daydreaming and denial and detaching behavior), in some texts emotion-focused strategies are classified into two groups: emotional strategies and avoidant strategies, both falling into the category of problem-focused strategies [20].

The outbreak of covid-19 epidemic brought about a dramatic increase in job stress of nurses and exposure to an unknown disease, provided the ground for increasing occupational burnout among them [3]; hence, it is necessary to identify the underlying mechanisms of job burnout in them so that appropriate educational and therapeutic interventions can be made to rehabilitate them. Thus, in the present study attempts were made to investigate the mediating effect of psychological capital and coping strategies on the relationship between job stress and occupational burnout.

2. Materials and Methods

Study type and study population

The present cross-sectional study was performed on nurses working in the public hospitals of Kermanshah, West of Iran, in 2022-23. The population encompassed a total of 3800 nurses. The sample size (n=351) was calculated using the Krejcie and Morgan table [21]. In order to prevent possible dropout, the sample size was increased to 404 people (15% potential dropout). Cluster random sampling method was used for data collection purposes, and paper and pencil questionnaires were distributed among the participants of 5 cities (Kermanshah, Kangavar, Sahneh, Paveh and West Islamabad).

Measures

Demographic information questionnaire (DIQ): This instrument was used to measure demographic variables such as age (years), gender, education level, marital status, work experience (years) and presence in the COVID-19 health-care ward.

Nursing stress scale (NSS): This scale was designed by Gray-Toft and Anderson [22]. This scale includes 34 items and 4-point Likert scale ranging from from never (score zero) to always (score 3) is used to score responses. The scores in this scale range from 0 to 102, with higher scores indicating more stress in nurses [22]. The construct validity of the scale was analyzed using the heuristic analysis method and 5 factors (death and suf-
Predicting Occupational Burnout in Nurses

Statistical analysis

In the descriptive phase, the measures of central tendency and standard deviation were used to report the variables. Skewness and kurtosis were used to check the normal distribution of data. In the analytical phase, Pearson’s correlation coefficient was used to check the linear correlation between the variables, and the maximum likelihood estimation was used to check the goodness of fit of the conceptual model of the research. Finally, the bootstrap test with 5000 iterations was used to check the direct effects. Data were analyzed using SPSS software, version 24 and Amos software, version 24.

3. Results

Out of 404 distributed questionnaires, only 359 questionnaires were analyzable, the rest were identified as distorted data and were excluded from the analysis. The mean and standard deviation of the age and work experience of the nurses were 39.44±8.12 and 18.32±5.34 respectively. The majority of respondents were female (n=272, 75.8%), had bachelor degrees (n=301, 83.8%) and were married (n=220, 61.3%). All of them had work experience of the nurses were 39.44±8.12 and 18.32±5.34 respectively. The majority of respondents were female (n=272, 75.8%), had bachelor degrees (n=301, 83.8%) and were married (n=220, 61.3%). All of them had work experience in the COVID-19 healthcare wards. The descriptive indices of the research variables and their Pearson correlation coefficients are presented in Table 1.

The skewness and kurtosis indices were found to be within the range of 2 to -2 for all variables, in other words, the skewness and kurtosis indices show that the
variables are normally distributed and parametric tests can be applied. Also, the results showed that occupational burnout of nurses with job stress (0.29) is significantly correlated with psychological capital (-0.50), problem-focused coping (-0.26), avoidant coping (-0.28) and emotion-focused coping (0.34) strategies (P<0.05).

As structural equation modeling is a sophisticated form of regression, it is necessary to check these assumptions before applying statistical tests related to the structural equation modeling. The results showed that Durbin Watson’s statistic is equal to 2.12 and lies within the acceptable range of 1.5 to 2.5, indicating the independence of the residuals. In addition, as the tolerance value increases (approaches 1), the level of collinearity decreases. In the present study the level of tolerance was measured for job stress (0.651), psychological capital (0.762), problem-focused coping (0.768), avoidant coping (0.561) and emotion-focused coping (0.781) and the results indicated a relatively favorable co-linearity. Thus, it is now possible to apply regression tests. Also, the results presented in Table 1 showed that the Pearson correlation coefficient of independent and mediator variables is less than 0.80. The high correlation coefficient of the independent and mediator variables indicates multiple collinearity, which has adverse effects on regression results. Goodness of fit indicators of the conceptual model are presented in Table 2.

The goodness of fit indices shows that the chi-square (21.05) is significant at 0.001. When the sample size is large, \( \chi^2 \) becomes significant. In these cases, the index \( \chi^2/df \), which is the ratio of chi square to the degree of freedom, is used. As the above table shows, \( \chi^2/df \) is equal to 3.50 and lies within the range of 1 to 5, indicating acceptable goodness of fit of the model. The above table also shows that the goodness of fit index (GFI), comparative fit index (CFI), normalized fit index (NFI), Tucker-Lewis-
is index (TLI) and incremental fit index (IFI) are reportedly above 0.90, indicating that the research model has an acceptable goodness of fit. Also, the root mean square error of approximation (RMSEA) is 0.07 indicating that the model has an acceptable goodness of fit. The path coefficients are presented in Table 3 and Figure 1.

The results suggest that occupational stress with the mediating role of problem-focused coping ($\beta=0.028$, $P=0.001$), emotion-focused coping ($\beta=0.069$, $P=0.001$), avoidant-oriented coping ($\beta=0.046$, $P=0.001$) and psychological capital ($\beta=0.144$, $P=0.001$) can indirectly affect nurses’ occupational burnout.

### Table 3. Coefficients of indirect and mediation paths in the proposed model

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Mediator Variables</th>
<th>Criterion Variables</th>
<th>Path Coefficient</th>
<th>SE</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Critical Ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job stress</td>
<td>Problem-oriented</td>
<td>Occupational burnout</td>
<td>0.028</td>
<td>0.015</td>
<td>0.004</td>
<td>0.062</td>
<td>2.321</td>
<td>0.001</td>
</tr>
<tr>
<td>Job stress</td>
<td>Emotion-oriented</td>
<td>Occupational burnout</td>
<td>0.069</td>
<td>0.018</td>
<td>0.039</td>
<td>0.107</td>
<td>2.542</td>
<td>0.001</td>
</tr>
<tr>
<td>Job stress</td>
<td>Avoidant-oriented</td>
<td>Occupational burnout</td>
<td>0.046</td>
<td>0.016</td>
<td>0.020</td>
<td>0.084</td>
<td>2.430</td>
<td>0.001</td>
</tr>
<tr>
<td>Job stress</td>
<td>Psychological capital</td>
<td>Occupational burnout</td>
<td>0.144</td>
<td>0.027</td>
<td>0.063</td>
<td>0.171</td>
<td>4.128</td>
<td>0.001</td>
</tr>
</tbody>
</table>

### Discussion

The present study was an attempt to investigating the role of psychological capital and coping strategies in job stress and occupational burnout of nurses, using structural equation modeling. The results showed that psychological capital serves as a mediator between job stress and occupational burnout, which is consistent with the findings of Li et al. [31] and Liu et al. [32]. In these studies, the protective effect of psychological capital against job stress has been confirmed. Thus, according to the resource conservation theory, there is a bilateral relationship between psychological capital and job stress. The
stress experienced by people can be perceived through the potential or actual loss of resources [33]. On the other hand, resources are important intrinsically or as means of obtaining or protecting other resources [33]. The job demand-resources model also endorses the findings of the present study, because psychological capital as one of the job resources can buffer the influence of job stress and thereby prevent occupational burnout [34].

The results also showed that the effect of job stress on nurses’ burnout is mediated by coping strategies, which is consistent with the findings of references [20, 35]. In this research, problem-oriented, emotion-oriented and avoidant-oriented copings had indirect mediating effects between job stress and occupational burnout. In order to explain the mediating role of problem-oriented coping, which includes taking measures to change the source of stress, it can be concluded that the aim of problem-oriented coping is to alter the stressful situation or to expand the resources to deal with stress. Thus it strengthens the ability of control the stress and pressure [36], leading to the reduction of occupational burnout [37]. Regarding the mediating role of emotion-focused coping strategies, it can be argued that these strategies play an effective role in occupational burnout and other associated harms as lead to the activation of negative emotions and cannot play an effective role in problem solving. They have mental health [18, 19]. In fact, it can be said that with any increase of nurses’ stress, emotion-focused strategies are increasingly activated in them, and this could, in turn, lead to an increase in occupational burnout. In terms of the avoidance strategy, which is considered as a type of escape from a stressful situation [38], it can be resulted that this strategy probably leads to a bias in the information processing [39]. Therefore, not only does it help to eliminate the stressful factors, but also increases occupational burnout [40].

Occupational burnout is a cumulative reaction to persistent occupational stressors, but the fact that occupational burnout doesn’t occur to all people under stress, can be attributed to protective psychological capacities [41]. On the one hand, Burnout occurs when professionals use ineffectve coping strategies to try to protect themselves from work-related stress [42]. Frequent use of maladaptive coping behaviors coupled with a highly stressful environment may direct nurses to a spiral and expose them to a higher risk known as burnout [43]. On the other hand, psychological capital is a positive source for fighting burnout in nurses [33]. The positive resources that make up a person’s psychological capital are beyond emotional states. That is, PsyCap resources are most often referred to as “more stable than states such as moods or emotions, but not as fixed as personality traits such as conscientiousness or core self-evaluations; But they can still serve as a protective factor against stress [44].

5. Conclusion

The present study reveals the significance of the role of psychological capital and coping strategies in the relationship between job stress and burnout in nurses. The findings of the present study provide adequate evidence to prove that psychological capital is a useful construct to protect people against job stress and prevent occupational burnout. In addition, coping strategies were proposed as important components, indicating the feeling of ability/ inability to control stress and thus prevent job stress. The present study was conducted during the COVID-19 epidemic by means of convenience sampling in one of the provinces of Iran, so conclusions should be made with care and with respect to the existing limitations. When it comes to Practical use of strategies, researchers and authorities are advised to implement educational programs to help nurses with stress management and improve their psychological capital.

Ethical Considerations

Compliance with ethical guidelines

The present article is derived from an MA thesis conducted at Bu-Ali Sina University, Hamedan (Code: IR.BASU.REC.1401.015).

Funding

The present study received no monetary contribution from funding organizations in the public, commercial or non-profit sectors.

Authors’ contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declared no conflict of interest.

Acknowledgements

We hereby express our gratitude to all the nurses who helped the researchers conduct the present study.
References


[37] Brittle B. Coping strategies and burnout in staff working with students with special educational needs and disabilities. Teach Teach Educ. 2020; 97:102937. [DOI:10.1016/j.tate.2019.102937]


