Structural Model of Psychological Characteristics of Nurses' Entrepreneurship Based on the Power Resources of Managers and the Mediating Role of Job Satisfaction

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Abstract

Background and objectives: According to the current situation, entrepreneurship and innovation are essential for organizations seeking to survive and work. So Presentation of the Structural Model of Psychological Characteristics of Nurses' Entrepreneurship Based on the Power Resources of Managers and the Mediating Role of Job Satisfaction at Miandoab city hospitals.

Methods: this correlation study was conducted through a survey. The statistical population of this study included all nurses of Fateme Hospital and Abbasi Miandoab Hospital in 2017. A statistical sample of Cochran formula was selected from 152 nurses by stratified random sampling from the statistical population. Data were collected by Hinkin and shiriykhm questionnaire(1989) and questionnaires measuring psychological characteristics were entrepreneurial nurses, Whose validity and reliability were confirmed by relevant tests. In order to analyze the data, structural equation modeling based on partial Maximum squares was used.

Results: The results showed that power resources of managers has a positive and negative effects on nurses entrepreneurship (β = 0.380, Sig = 0.002) and a positive influence on job satisfaction of nurses (β = 0.560, Sig = 0.000) It also was found that job satisfaction effects positively on nurses entrepreneurship(β = 0.751, Sig = 0.000). Therefore, according to the findings, the role of mediating job satisfaction on the relationship between managers' power and entrepreneurship characteristics of nurses was confirmed.

Conclusion: According to the results, Hospital managers can by used from the findings of this study, use of power resources and increase job satisfaction among nurses has caused and strengthen entrepreneurial behavior and entrepreneurial spirit of its nurses And consequently guarantee the success and prosperity of the organization.

Keywords: job satisfaction, entrepreneurship, managers, power resources.
Introduction

Meanwhile, organizations are encountered so many challenges that require entrepreneurial solutions. Any organization that cannot use employees’ talents will be defeated in the competition field by other organizations (1). Job satisfaction of the employees is a significant factor in organizational success, so that in the same way, identification of the influential factors on job satisfaction is of great importance (2). One of these influential factors is power resources of managers (3). There is a direct relationship between the performance of organizations and power resources of managers (4). Power resources provide the opportunity for managers to be effective (5). On the other hand, job satisfaction is a multidimensional and complex concept that is correlated with mental, physical, and social factors (6). Job satisfaction guarantees physical and mental health, and consequently, improves spirituality and mentality (7). Therefore, behavioral studies are mostly focused on power resources of managers and job satisfaction of the employees (8). Unfortunately, entrepreneurship is not taken into consideration in health sector of Iran (9). Health sector can use entrepreneurship in an efficient way in order to improve the quality of its activities. According to the abovementioned issues, the researcher aims to investigate the effects of these two factors on psychological characteristics of employees’ entrepreneurship. In this way, the amount of their effectiveness in organizations will be identified and functional recommendations will be presented to improve and reinforce these characteristics.

French and Raven introduced power as the potential ability of a manager in changing behaviors, intentions, attitudes, beliefs, emotions, and values of an individual (employee) (10). French and Raven identified five power resources for organizational environments: legitimate power, reward power, coercion power, referent power, and expert power (11). 1- Legitimate power (lawful): this power arises from organizational position and depends on official position of an individual (12). 2- Referent power: whenever the employees attribute good characteristics such as honesty, bailment and secrecy to their managers, it can be said that the manager has power resources (13). 3. Expert power: it refers to behavioral control power of the managers through their experience, knowledge, and judgment (13). 4. Reward power: it refers to the ability of manager in fulfilling employees’ demands (13). This power is evaluated based on the degree of control a person has on rewards that are valuable to others (14). 5- Coercion power: this power is based on fears and threats of the employees (15).

Job satisfaction is indicative of a positive feeling toward one’s job. A person with such kind of feeling will have higher job satisfaction, and vice versa (16). Job satisfaction is a set of feelings that people have toward their positions (17). It also indicates happiness in workplace (18) and can be resulted from attitudes and managing methods of the managers. A person with job satisfaction has positive feelings, and a person without job satisfaction has negative feelings toward his or her job (19).

Entrepreneurship is a key element in competitive advantages of the organizations (20). Organizations can be risk taking and active through the activities of their members (21). The researchers have divided the influential factors on entrepreneurial
behaviors into three social, environmental, and individual factors. The model of individual factors, which are widely known as feature model, is focused on individual characteristics of the entrepreneurs (22). This approach is more common in comparison with other entrepreneurial approaches (23). Furthermore, it emphasizes on this hypothesis that entrepreneurs have some characteristics, attitudes and values that distinguish them from others (22). In the present study, after a comprehensive study of entrepreneurship literature review, the following characteristics were selected as psychological characteristics of entrepreneurship: 1- Achievement: achievement refers to the tendency to do everything in a best way and trying to reach the peak of success (25). 2- Enterprise: entrepreneurship tries to inhibit dangers via individual efforts and to make the best decisions in these conditions (26). 3- Creativity: generally, creation of a new and beneficial idea or production is considered creativity (27). Creativity includes expressiveness (the ability to create new ideas) and innovation (abnormal and unique responses) (28). 4- Responsibility: it is an inner necessity and obligation to perform the responsibilities in a most efficient way (24). 5- Independency: it can be defined by such kind of terms as “having control over one’s destiny”, “to do something for myself”, and “to be my own boss” (29). 6- Self-confidence: it refers to confidence in oneself and believing that everything is possible (26).

Azizi et al. concluded that coercion power causes higher job satisfaction in employees with low levels of readiness (30). In another study, Nourbakhsh declared that managers use reward power more than expert, legitimate, coercion, and referent powers (31). Torabian indicated that power resources of the managers have significant effects on organizational climate. Moreover, he concluded that referent and expert powers are two significant power resources for managers. He rated power resources based on rate of usage as referent, expert, reward, legitimate, and coercion powers (32). Pourghaz and Mohammadi stated that there is direct and significant relationship between power resources of the managers and psychological characteristics of the employees. Moreover, reward power resources of the managers are the most important predictor for psychological characteristics of the employees (33). Howard conducted a study on the effects of expanded entrepreneurial components (independency, risk taking, motivation for progress, internal control center, self-confidence, and innovation) on entrepreneurship. He observed a direct relationship between these components and entrepreneurial abilities of people in the study sample (5). Burke and Wilcox claimed that expert power was the most important power resource, and legitimate, force majeure, referent, and reward powers fell into the next levels of importance. Referent and expert powers result in the highest satisfaction, legitimate and reward powers in relative satisfaction, and force majeure power in low satisfaction (34). In order to provide a conceptual model and to compile research questions about job satisfaction of nurses, the theory of Skinner et al. (1984) was used for evaluation of nurses’ job satisfaction. Furthermore, five power resources were introduced by French and Raven as the main components of power resources of managers (11). In order to evaluate psychological characteristics of nurses’ entrepreneurship, achievement, risk taking, innovation, creativity, responsibility, independency, and self-confidence were selected. The conceptual
model of this research is presented in Figure (1).

![Diagram](image)

**Figure 1.** Conceptual Model of Research

Research questions are designed based on literature review and conceptual model of the research:

**Question 1:** What is the structural model for psychological characteristics of nurses’ entrepreneurship based on the power resources of managers and the mediating role of job satisfaction?

**Question 2:** Do power resources of managers affect psychological characteristics of nurses’ entrepreneurship?

**Question 3:** Do power resources of managers affect nurses’ job satisfaction?

**Question 4:** Do job satisfaction affect psychological characteristics of nurses’ entrepreneurship?

**Materials and Methods**

The present study is a descriptive correlational research. It is highly dependent on structural equation modeling carried out periodically in 2017. The statistical population consists of all the nurses of Miandoab city (Shahid Abbasi and Hazrat-e Zahra Hospitals). The size of population study was reported to be 260 nurses based on administrative and staff departments (145 nurses from Shahid Abbasi Hospital, and 115 nurses from Hazrat-e Zahra Hospital). The sample size includes 152 nurses (85 nurses from Shahid Abbasi Hospital and 67 nurses from Hazrat-e Zahra Hospital) who were selected via Cochran formula and stratified random sampling among different wards (isolation, surgery, neurology, emergency, and others). All the three questionnaires were distributed among different wards of the hospital and the researcher collected and analyzed the data in order to obtain nurses’ attitudes.

In order to evaluate power resources of managers, standard power resources questionnaire of Hinkin & Schriesheim (1989), job satisfaction questionnaire of Bashir et al. (2003), and psychological characteristics of entrepreneurship questionnaire were used. In addition, demographic checklist was used for the data related to age, gender, education, birthplace, and history.

Power resource questionnaire includes 4 components and 20 statements; the questionnaire for psychological characteristics of entrepreneurship includes 6 components and 24 statements with four questions on each variable. Job satisfaction questionnaire includes four questions on nurses’ job satisfaction. Face validity of the questionnaires was approved by experts and professors followed by evaluation of constructive validity (convergent and divergent validity). In order to measure convergent validity Confirmatory Factor Analysis (CFA) was used. To do this, those questions with lower than 0.5 factor load were removed from the analysis. In the next step, divergent validity was approved by extracted variance (AVE) and combined reliability (CR). Therefore, convergent validity of all the questions was higher than 0.5, and eventually, the third condition of divergent validity was approved (CR > AVE) (Table 1).
Furthermore, divergent validity of the questionnaire was approved. Afterwards, validity of the questionnaires was approved by internal consistency (Cronbach Alpha) measurements. According to Table 2, the questionnaires had acceptable validity, since alpha coefficient of all the variables is 0.7. However, this value for responsibility variables is 0.665, which is close to 0.7. If it does not interfere with fit of the model, it will be acceptable.

### Table 1. Mean of Extracted variance and Combined Reliability for Research Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>AVE</th>
<th>CR</th>
<th>Variables</th>
<th>AVE</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legitimate power</td>
<td>0.543</td>
<td>0.787</td>
<td>Need for achievement</td>
<td>0.718</td>
<td>0.914</td>
</tr>
<tr>
<td>Reward power</td>
<td>0.627</td>
<td>0.893</td>
<td>Risk-taking</td>
<td>0.804</td>
<td>0.835</td>
</tr>
<tr>
<td>coercion Power</td>
<td>0.534</td>
<td>0.784</td>
<td>Creativity</td>
<td>0.689</td>
<td>0.936</td>
</tr>
<tr>
<td>Referent Power</td>
<td>0.528</td>
<td>0.908</td>
<td>Responsibility</td>
<td>0.745</td>
<td>0.818</td>
</tr>
<tr>
<td>Expert Power</td>
<td>0.737</td>
<td>0.822</td>
<td>Independence</td>
<td>0.776</td>
<td>0.929</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>0.569</td>
<td>0.789</td>
<td>Self-confidence</td>
<td>0.793</td>
<td>0.917</td>
</tr>
</tbody>
</table>

### Table 2. Alpha Cronbach Coefficient for components

<table>
<thead>
<tr>
<th>Variable</th>
<th>Component</th>
<th>Number of items</th>
<th>Alpha Cronbach of component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers’ power resources</td>
<td>Legitimate power</td>
<td>4</td>
<td>0.734</td>
</tr>
<tr>
<td></td>
<td>Reward power</td>
<td>4</td>
<td>0.832</td>
</tr>
<tr>
<td></td>
<td>coercion Power</td>
<td>4</td>
<td>0.713</td>
</tr>
<tr>
<td></td>
<td>Referent Power</td>
<td>4</td>
<td>0.738</td>
</tr>
<tr>
<td></td>
<td>Expert Power</td>
<td>4</td>
<td>0.785</td>
</tr>
<tr>
<td>Entrepreneurship of nurses</td>
<td>Need to achievement</td>
<td>4</td>
<td>0.883</td>
</tr>
<tr>
<td></td>
<td>Risk-taking</td>
<td>4</td>
<td>0.775</td>
</tr>
<tr>
<td></td>
<td>Creativity and innovation</td>
<td>4</td>
<td>0.785</td>
</tr>
<tr>
<td></td>
<td>Responsibility</td>
<td>4</td>
<td>0.665</td>
</tr>
<tr>
<td></td>
<td>Independence</td>
<td>4</td>
<td>0.774</td>
</tr>
<tr>
<td></td>
<td>Self-confidence</td>
<td>4</td>
<td>0.895</td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>Job satisfaction</td>
<td>4</td>
<td>0.856</td>
</tr>
</tbody>
</table>
Results

In the descriptive section, 15% of the participants are females and 85% are males. The highest frequency of age range is 30 to 40. Most of the respondents (90%) have bachelor or master degrees with more than 10 years of work experience. Data analysis was done via AMOS (Analysis of Moment Structures) software.

In the inferential section and before presentation of structural model, Confirmatory Factor Analysis was used for the intended model that is explained in the previous section. It should be noted that data analysis was done based on Holland’s two-step method in order for the modeling process to be done via partial least squares method. Therefore, in the first step, Confirmatory Factor Analysis was carried out through validity measurement, and in the next step, the structural model was presented. Table 3 indicates fit indices of research structural model and their acceptable values. Fit indices are constantly developing and improving. One of the most common categorization of these indices is absolute, relative, and internal and external fit (36). The absolute index uses absolute value of errors, and relative index uses error ratios. External model index investigates the relationship between obvious and hidden variables, and internal model index investigates the relationship between obvious variables with other obvious variables of the fit (37).

According to fit indices, it can be said that the presented model of the sample can be generalizable to the specified society. After modification of the estimation model by removing those questions with low factor load, if the model still does not have an appropriate fit, the structural model can be presented. The fitted structural equation model of the research is indicated in Figure[2].

![Figure 2. Fitted model of Amos software output](image)

The results of data analysis are summarized in Table 4. In response to the second research question, the results indicated that power resources of the managers have a significant and positive effect on psychological characteristics of nurses’ entrepreneurship. In response to the third question, the results indicated that power resources of the managers have a significant and positive effect on nurses’ job satisfaction, and in response to the fourth question, it can be said that job satisfaction have a positive and significant effect on nurses’ psychological characteristics. Therefore, the mediating role of job satisfaction in the relationship between power resources of the managers and psychological characteristics of nurses’ entrepreneurship was approved in each ward. As can be seen, a mediating variable intensifies the relationship between power resources of the managers and psychological characteristics of nurses’ entrepreneurship.
Table 3. Fit Index of Research Structural Model

<table>
<thead>
<tr>
<th>Index (df)</th>
<th>Desirable value</th>
<th>Model's values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of freedom</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>(\chi^2)</td>
<td>-</td>
<td>208.776</td>
</tr>
<tr>
<td>Significance level of chi-square</td>
<td>Bigger than 0.5</td>
<td>0.000</td>
</tr>
<tr>
<td>(\chi^2/\text{df})</td>
<td>Smaller than 3</td>
<td>2.571</td>
</tr>
<tr>
<td>Adjusted goodness of fit index (AGFI)</td>
<td>Bigger than 0.90</td>
<td>0.958</td>
</tr>
<tr>
<td>Root mean square residual (RMR)</td>
<td>Smaller than 0.09</td>
<td>0.076</td>
</tr>
<tr>
<td>Comparative fit index (GFI)</td>
<td>Bigger than 0.90</td>
<td>0.978</td>
</tr>
<tr>
<td>Root mean square error of approximation (RMSEA)</td>
<td>Smaller than 0.08</td>
<td>0.056</td>
</tr>
</tbody>
</table>

Table 4: Summary of Results of Reviewing the fitted structural model

<table>
<thead>
<tr>
<th>Path</th>
<th>Relation</th>
<th>Regression Coefficient</th>
<th>Significance level</th>
<th>Test result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Nurses’ ← Managers’ power resources entrepreneurship</td>
<td>0.380</td>
<td>0.002</td>
<td>Role confirmation</td>
</tr>
<tr>
<td>2</td>
<td>Job ← Managers’ power resources satisfaction</td>
<td>0.560</td>
<td>0.000</td>
<td>Role confirmation</td>
</tr>
<tr>
<td>3</td>
<td>Nurses’ ← Job satisfaction entrepreneurship</td>
<td>0.751</td>
<td>0.000</td>
<td>Role confirmation</td>
</tr>
<tr>
<td></td>
<td>Intermediacy of job satisfaction regarding job satisfaction and psychological properties of nurses’ entrepreneurship</td>
<td>0.420</td>
<td>-</td>
<td>Role confirmation</td>
</tr>
</tbody>
</table>

Discussion

The present study aims to present a structural model for psychological characteristics of nurses’ entrepreneurship based on power resources of managers and mediating role of job satisfaction in Miandoab city. The results indicated that power resources of managers have positive and significant effects on nurses’ job satisfaction, and job satisfaction on entrepreneurship characteristics. Furthermore, the results indicated that job satisfaction has a mediating role in the relationship between power resources of managers and entrepreneurship characteristics of the employees. Generally, managers have a
significant role in entrepreneurial proceedings and improvement of the organization that can use their power resources and the tools at their possession to create the best opportunities (38). Power is a tool by which leaders can become dominant over their followers (39). The attitude of followers toward the power of their managers is of great importance (40). Positive attitudes of employees toward managers cause them to be able to fulfill the demands of managers and organizations (41). Power is a guiding force for employees (42); in fact, it is a key factor for sustainability of organizations (43). Although power is unpleasant for some people, it is pleasant for those employees who have clear and accurate understanding of power resources of managers; therefore, power increases the satisfaction of such kind of employees (39). The results of this study are consistent with the reported results of Pourghaz and Mohammadi (33) regarding the relationship between power resources of managers and psychological characteristics of employees. Furthermore, our results are congruent with those reported by Torabian (32) and Hassan Zadeh (44). It can be concluded from these results that referent, reward, and expert powers are more effective, coercion power has a negative role, and legitimate power usually has no effects on these characteristics. Thus, the managers of statistical society can use these power resources (referent, reward, expert powers) in order to improve the psychological characteristics of nurses’ entrepreneurship and consequently, improve their own organization. Regarding nurses’ job satisfaction, the results of this study are in agreement with the reported results of Azizi et al. (30) who indicated that power resources of managers were correlated with employees’ job satisfaction. Moreover, these results are in line with the results of Howard (5), Burke and Wilcox (34), and Oreg (38). In most of these studies, referent and expert powers have the highest influence, legislative and reward powers have relative influence, and coercion power has the least influence on employees’ job satisfaction. Hence, the managers of the study population should avoid such kind of power, since it has negative and harmful consequences for the organization. According to the results, power resources of managers affect psychological characteristics of nurses’ entrepreneurship; it also has positive effects on nurses’ job satisfaction. As referent, expert, and reward powers increase, nurses’ job satisfaction increase as well. Nurses’ job satisfaction has a positive effect on entrepreneurship characteristics. According to the results, the effects of job satisfaction on psychological characteristics are higher than the effects of power resources (referent, expert, and reward powers). Power resources can be effective along with job satisfaction. In this case, nurses can have an appropriate opportunity to develop their creative and innovative ideas and express their psychological entrepreneurial characteristics.

Conclusion

In sum, the results of this study indicated that power resources of managers have positive and significant effects on psychological characteristics of nurses’ entrepreneurship and job satisfaction. In this regard, job satisfaction also has a positive and significant effect on psychological characteristics of nurses’ entrepreneurship. Therefore, according to the fitted structural model of this study that confirms all the three paths of conceptual model, mediating role of job satisfaction in the relationship between power resources of managers and psychological characteristics of nurses’ entrepreneurship
was approved. The managers of the study population can benefit from the results of this study, appropriate use of their own power resources and increased job satisfaction of nurses in order to improve and strengthen the entrepreneurial behaviors in the nurses, and consequently, facilitate the success and prosperity of their organizations.

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