Crisis management competencies and their relation to self-efficacy of managers in the organizations related to disasters

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Abstract

Aims: The present study aims at evaluating crisis management competencies and their relation among the managers of the major organizations dealing with disasters and tragedies in Isfahan, Iran. Materials and Methods: This was a cross-sectional descriptive survey. The population, which consisted of all the managers and experts in the mentioned organizations, were randomly selected and estimated to be 186 persons using the formula for sample size determination. The materials used were two researcher-made questionnaires, one regarding the managers' competency and the other on their self-efficacy, which were divided to three parts. The first part focused on the demographic characteristics, the second on assessing the managers’ competency that included 32 questions, and the third on their self-efficacy in critical conditions. The validity of the questionnaires was confirmed by the key experts and officials in the field, and their reliability values were also determined using Cronbach’s alpha, which were 94% for the competency and 97% for the self-efficacy questionnaire. To analyze the data, both descriptive (frequency, percentage, and mean) and inferential (t-test, analysis of variance (ANOVA), and factor analysis) statistics were used. Results: Data analysis revealed 53.4% of the subjects were females and 46.6% were males. Most managers were 34-43 years old. Those with degrees lower than BA were the least in number, and those holding BA formed the majority. Those studying management in various trends also formed a major part of the sample. Regarding the sample managers’ background in management, the least amount of experience was 6 months and the highest was 26 years. Factor analysis of competency and self-efficacy also identified the managers’ most important technical, cognitive, behavioral, and underlying characteristics. Conclusions: This study revealed the effects that each of the technical, cognitive, behavioral, and underlying characteristics have on managers in critical conditions, and showed their demographic characteristics (age, gender, education, amount of experience) also influence their competency and self-efficacy. Finally, it was found there is a statistically significant positive correlation between the managers’ competency and self-efficacy: The more the managers’ competency is, the more their self-efficacy is, and vice versa.

Key words: Competencies, crisis management, disaster, self-efficacy

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Introduction

“Management” is the most influential necessity for the organizations to reach their goals. The manager, as the organization’s official representative, is its head who has to establish coordination and enhance effectiveness. Thus, the organization's success to realize its goals depends upon how it is managed. How much the organization is successful to fulfill this crucial responsibility is mostly dependent on
the manager’s capability and effectiveness. The managers’ effectiveness also depends on their competency, skill, knowledge, insight, and abilities. Competencies make one work skillfully in complicated and unpredicted conditions. Similarly, self-efficacy is the potentiality through which one’s cognitive, social, affective, and behavioral skills are organized effectively to realize different goals. Manager cannot properly predict his future performance according to his knowledge, skills, and previous achievements; however, his belief in his own performance ability affects. Having different skills differs significantly from being able to put them properly in practice to fulfill the duties in different conditions. Manager is fully aware of his duties and has the required skills to perform them, but he does not know how to use them successfully. So, the managers can set their goals better and choose more successful methods if they know what their real abilities and capacities are (especially in critical conditions). Crisis provides an opportunity to get into new capabilities to deal with more complicated activities. Therefore, if one successfully overcomes the crisis, he will believe in himself more that he can overcome more complicated conditions; as a result, his self-efficacy will be enhanced in the later activities.

To manage a crisis effectively, it is necessary to have an organized approach based upon intelligence, managing sensitivity, and a proper understanding of the importance of a detailed plan and organizational readiness, therefore, in a crisis and emergency situation, the organizational leadership necessitates skills, individual and collective abilities, high self-confidence, and, in other words, particular competencies such as unusual contingency decision-making, judgment upon potential evidences, prioritizing and emergent selection, creativity, spontaneous innovation, contingency planning, stress and anger control, effective communication, etc. The present study is, thus, an attempt to evaluate the managers’ competence in crisis and emergency situation and study its relation with their self-efficacy in organizations which are mostly dealing with disasters and tragedies.

The term “crisis management” means the optimal planning in organizing and controlling crisis. It includes four basic components which are damage reduction, readiness, emergent reaction, and reconstruction. A comprehensive system of crisis management assesses the potential risks and available resources, plans to establish a balance between the available resources and the risks, and makes it possible to control the crisis using available resources.

Borhani et al. studied the correlation between the nurses’ self-efficacy in overcoming unexpected incidents and demographic characteristics, and concluded that their self-efficacy was medium in unexpected incidents and there was a significant correlation between the mean value of self-efficacy and factors such as age, working experience, educational development, and prior experience in service delivery in the crisis. As another study done by Cheraghi et al. concluded, there is also a significantly positive correlation between the self-efficacy in clinical performance and nursing clinical performance. Regarding the mean value of the percentages of factors under study, it also revealed that the nursing seniors’ self-efficacy in clinical performance is medium. Thus, non-educational factors, like self-efficacy, have crucial roles in student performance, especially clinical performance. Moreover, Ghadamgahi studied knowledge, attitude, and self-efficacy of nursing staffs in hospital infections control and revealed that there is no significant correlation either between knowledge and self-efficacy or between attitude and self-efficacy, whereas there is a significant correlation between knowledge and gender. The study also showed that most nurses are not well informed on hospital infections control. Therefore, since the nurses play a vital role in hospital infections control, to enhance their knowledge, attitude, and self-efficacy, it is required to provide some training for them, in order to take the right health action while enjoying positive attitudes and enhanced ability.

Among the studies from other countries outside Iran, Chang et al. studied enhancing the new-graduate students’ self-efficacy in emergency situation and concluded that compared to the control group, simulation training can significantly increase self-efficacy to work in emergency department. Moreover, Cochran, in an extension competency study, identified 14 core competencies including communication, successive learning, service delivery to the customers, variety, flexibility and change, inter-personal relations, development knowledge, specialization, resource management, team working and leadership, technology use and compatibility, thought and problem solving, understanding others and societies, and self-government. Edwards believed the management competence includes staffs’ development and training, communication, problem solving, change management, technical skills and duties, team forming, performance management, interpersonal awareness, and perspective integration. Also, Edbert et al. in a review, identified seven necessary skills to effectively perform in crisis. One of these skills is the personnel’s technical skill in crisis, whose mastery should be assessed.

When some unexpected incidents occur, the working condition in a society, especially in the service delivery organizations like hospitals and emergency departments, changes completely. This change affects all the activities; so, the organizational condition in conformity with the current situation must be based on pre-determined plans. Here, the whole system should be involved in order to deliver services to the injured, sick, disabled, to the children or the old, and even to the normal people. Therefore, there is a great difference, between the usual times and the time of unexpected incidents, in organizing and planning. Crisis management is a process through which the disaster vulnerability is reduced effectively using anti-crisis resources. The present study, thus, aims at evaluating the competency in crisis management based on the merits of the eye, and studying its relation with the managers’ self-efficacy in the organizations when
confronting disasters and tragedies. It is, therefore, a study which analyzes the managers’ competency in technical, behavioral, cognitive, and underlying fields because the managers enjoy competency and self-efficacy if they have the best performance in critical and emergent conditions.

Materials and Methods

The present study was a cross-sectional descriptive survey done in 2012-2013 in Isfahan, Iran. The population, which consisted of all managers and experts in welfare organizations, Red Crescent, hospitals, crisis management committee, governorship, and other organizations responsible for the management of tragedies and disasters in 2012-2013 in Isfahan province, was estimated to be 186 persons using Cochran formula for sample size determination; however, the number of completed questionnaires was 166. The materials were two researcher-made questionnaires, one regarding the managers’ competency and the other on their self-efficacy, which were divided to three parts. The first part focused on the demographic characteristics, the second on assessing the managers’ competency that included 32 questions, and the third on their self-efficacy with 30 questions prepared based upon Likert scale. Face validity of the questionnaires was confirmed by the key experts and officials in the field, and the reliability values of the questionnaires on competency and self-efficacy were also determined, using Cronbach’s alpha, which were 94% and 97%, respectively. To analyze the data, both descriptive (frequency, percentage, and mean) and inferential [t-test, analysis of variance (ANOVA), and factor analysis] statistics were used, which were all done through Statistical Product and Service Solutions (SPSS) software (Version 16).

Results

As mentioned previously, the data were gathered using questionnaires, and the results of their analysis are discussed in Tables 1-4.

Of the 166 participants, 88 persons (53.4%) were females and 78 persons (46.6%) were males. The mean ± SD of age was 37.61 ± 7.53 years and the majority were in the age group 34-43 years [Table 1]. Also, majority of them were holding B.A (bachelor) degree and the ones with the degrees lower than B.A were the least in number. The ones studying management in various trends also formed the majority of the sample.

Regarding the sample managers’ background in management, it should be mentioned that their least amount of experience was 6 months and the highest experience was 26 years; the mean ± SD, in general, was 5.89 ± 6.24 [Table 2]. These were divided to five groups – less than 5 years of experience, 6-10 years, 7-15 years, and more than 15 years of experience – and most of them had less than 5 years of experience.

Moreover, the results derived from factor analysis, mean, standard deviation (SD), and the mean rank of managers’ competency and self-efficacy are shown in Tables 3 and 4, respectively.

The mean rank of items such as “defending one’s own ideas of the others is wrong,” “the ability to establish an effective working relation with the staffs in critical conditions,” and “appreciating the staffs’ good work even in critical conditions” got the highest score, while the mean rank for

![Table 1: Frequency distribution of managers’ age](image)

<table>
<thead>
<tr>
<th>Age, years</th>
<th>Frequency</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>23-33</td>
<td>48</td>
<td>23</td>
<td>52</td>
<td>37.61</td>
<td>7.53</td>
</tr>
<tr>
<td>34-43</td>
<td>72</td>
<td>34</td>
<td>72</td>
<td>43.4%</td>
<td></td>
</tr>
<tr>
<td>44-53</td>
<td>46</td>
<td>44</td>
<td>46</td>
<td>27.7%</td>
<td></td>
</tr>
</tbody>
</table>

SD: Standard deviation

![Table 2: Frequency distribution of years of experience in management](image)

<table>
<thead>
<tr>
<th>Years of experience in management</th>
<th>Frequency</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months</td>
<td>98</td>
<td>6 months</td>
<td>26 years</td>
<td>5.89</td>
<td>6.24</td>
</tr>
<tr>
<td>6-10</td>
<td>30</td>
<td>18 months</td>
<td>18 years</td>
<td>13.3%</td>
<td></td>
</tr>
<tr>
<td>11-15</td>
<td>22</td>
<td>11 months</td>
<td>15 years</td>
<td>9.6%</td>
<td></td>
</tr>
<tr>
<td>15+</td>
<td>16</td>
<td>15 years</td>
<td>25 years</td>
<td>16.1%</td>
<td></td>
</tr>
</tbody>
</table>

SD: Standard deviation

![Table 3: Ranking components for managers’ competency](image)

<table>
<thead>
<tr>
<th>Managers’ competency</th>
<th>Factor load</th>
<th>Mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Defending one's own ideas of the others is wrong</td>
<td>0/613</td>
<td>4/01</td>
</tr>
<tr>
<td>The ability to establish an effective working relation with the staffs in critical conditions</td>
<td>0/557</td>
<td>4/12</td>
</tr>
<tr>
<td>Appreciating the staffs’ good work even in critical conditions</td>
<td>0/633</td>
<td>4/18</td>
</tr>
<tr>
<td>Acknowledging the mistakes and revealing the fact</td>
<td>0/784</td>
<td>2/23</td>
</tr>
</tbody>
</table>

SD: Standard deviation

![Table 4: Ranking components for managers’ self-efficacy](image)

<table>
<thead>
<tr>
<th>Managers’ self-efficacy</th>
<th>Factor load</th>
<th>Mean rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>The ability to inform the colleagues in critical conditions</td>
<td>0/719</td>
<td>4/02</td>
</tr>
<tr>
<td>The ability to communicate and respond in critical conditions</td>
<td>0/697</td>
<td>4</td>
</tr>
<tr>
<td>The ability to mobilize the subgroups to respond in critical conditions</td>
<td>0/781</td>
<td>3/95</td>
</tr>
<tr>
<td>The ability to find a way to reduce stress among the staffs in the subgroups in critical conditions</td>
<td>0/595</td>
<td>3/53</td>
</tr>
<tr>
<td>The ability to attract financial and human support</td>
<td>0/679</td>
<td>3/55</td>
</tr>
</tbody>
</table>

SD: Standard deviation
“acknowledging the mistakes and revealing the fact” was insignificant.

Also, the mean, SD, and the mean rank of managers’ self-efficacy in the management of tragedies and disasters are shown in Table 4. As it is seen in the table, items such as “the ability to inform the colleagues in critical conditions,” “the ability to communicate and respond in critical conditions,” and “the ability to mobilize the subgroups to respond in critical conditions” got the highest scores, while the mean rank for “the ability to find a way to reduce stress among the staffs in the subgroups in critical conditions” and “the ability to attract financial and human support” got the lowest scores.

Discussion and Conclusions

Regarding the managers’ competence, items such as “defending one’s own ideas of the others is wrong,” “the ability to establish an effective working relation with the staffs in critical conditions,” and “appreciating the staffs’ good work even in critical conditions” got the highest score, which indicated that the managers have an effective leadership in crisis, whereas the mean ranks for “sugesting to have the necessary changes even if the staffs disagree,” “the ability to find the basic problem by identifying its components,” and “maintaining personal effectiveness even when one is disappointed and angry” were insignificant. In other words, focusing on the mean ranks, it can be said that the managers were competent enough to manage the crisis and lead the staff to administer; however, they were not much competent in training the staffs how to deal with the incident, and react in a timely and effective manner.

Regarding the managers’ self-efficacy, items such as “the ability to inform the colleagues in critical conditions,” “the ability to communicate and respond in critical conditions,” and “the ability to mobilize the subgroups to respond in critical conditions” got the highest scores (showing the managers’ communicative skills and their influence in organizations), while the mean rank for “the ability to find a way to reduce stress among the staffs in the subgroups in critical conditions” and “the ability to attract financial and human support” got the lowest scores. However, the managers were not solely responsible in this regard, but to improve the situation, the staffs should also improve and get prepared to face critical conditions. Furthermore, since stress is an individual characteristic (depending on the person himself), it is relatively difficult to be reduced among staffs. But some practices can make the staffs aware of the possible conditions, enhance their related capabilities, and reduce stress and confusion. Moreover, in order to attract financial and human support, the organization should make arrangements before the crisis; a cooperation memorandum should also be concluded between the organizations when needed. Finally, it can be mentioned that there is a statistically significant positive correlation between the managers’ competency and self-efficacy: The more the managers’ competency is, the more their self-efficacy is, and vice versa.

Acknowledgments

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