

**ORIGINAL RESEARCH****Investigate the relationship of 360-degree emotional intelligence and creativity and innovation of managers in training hospitals of Shiraz University of Medical Sciences in 2013**Nahid Shahabi<sup>1</sup>, Farzaneh Miri<sup>2</sup> Elaheh Asadi Pour\*<sup>3</sup>

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**Abstract****Introduction**

Management and human factors are the most important changing which humanity is facing today in all fields and in different form in various communities. Emotional intelligence is one of the applied topics in the field of personnel management and communication. The aim of this study is to determine the correlation between 360-degree emotional intelligence and a creativity and innovation of managers in training hospitals of Shiraz Medical Sciences University.

**Research Methodology**

This study is cross-sectional and 71 of the senior and middle managers at training hospitals of Shiraz Medical Sciences were selected as statistical sample. Data collection tool in this study is a questionnaire containing 107 questions and its Cronbach's alpha coefficient was 0.81. Data was analyzed using SPSS 16 software, utilizing t-test statistical tests and Pearson correlation.

**Results**

A direct correlation was observed between dimensions of emotional intelligence, i.e. self-management, communication and management were correlated with each other. Another result was a correlation between emotional intelligence, creativity and innovation. ( $p < 0.05$ )

**Conclusion**

This study showed a two-way direct correlation between emotional intelligence and creativity and also emotional intelligence and innovation. Managers can create creativity and innovation or prevent them in employees by their performance.

**Key words:** Emotional intelligence, 360-Degree, Creativity, Innovation, Manager, Hospital

## Introduction

Management and human factors are the most important shifting phenomena that humanity is facing nowadays in all fields and forms in various communities. In fact, the human factor determines the strong differences of human life today with his past condition. If the factor is removed from everyday life, the development of human life is eliminated. To change and moving toward better conditions in addition to factors such as capital, raw materials, etc. are the most important factors of human resource.

In fact, the wealth of any society is only human. Emotional intelligence seems to be evolved form of human concentration in organizations and a new and qualified tool in the hands of manager to guide people within the organization and satisfy customers (1, 2).

Emotional intelligence in predicting success on the job is not more important than cognitive intelligence is not less than it. Highly efficient person with a high IQ may not have enough emotional structure to deal with stress in the work climate. Truly intelligent man is a man who is not only perceptive, but also emotionally intelligent.

Given that 70 percent of the time and energy of managers are spent dealing with human beings, human resources are the most important assets of any organization, therefore it is very important to train the managers in the various fields of psychology. The importance of psychology is to the extent that one reason for the industrial success of the developed countries is their attention to psychology and its application. There is no doubt that the effective administration of the organization depends on the quality of their human resources function (3, 4).

Researches have shown that the role of intelligence quotient (IQ) in the success of individuals is only 20%, and the share of emotional intelligence (EQ) is 80% in this field (5).

Daniel Goleman in 1995 with the release of his book titled *Emotional Intelligence* defined emotional intelligence as a capacity or the ability to regulate self and others emotions in order to motivate his/herself and to effectively control emotions and utilize them to communicate with others (6, 7).

Emotional intelligence 360 perspective was presented by Dr. Novak. He is one of the psychologists and researchers in the field of

degree feedback 360, emotional intelligence and workplace health and works as a member of Daniel Goleman group to examine emotional intelligence in the workplace (8). 360 Degree feedback of emotional intelligence is a comprehensive tool to report the capabilities and developmental needs about interpersonal and social communication.

Dimensions of this view include self-management and relationship management. Self-management components are self-cultivation, stress tolerance, self-control, confidence, solving strategic problem and orientation to success., While the relationship management components are development of strategic relations, conflict management, leadership, empathy, interpersonal support and cooperation as well as communication that its components include written communications, two-way feedback, verbal communication, oral presentation and listening) (9).

In one study conducted by Mansoureh Lotfi (2010), examined the relationship between emotional intelligence and conflict management strategies in managers at training and research center in Shiraz Medical Sciences University and their results showed that emotional intelligence is an important factor in identifying and guiding the conflict.

Therefore, it is essential to consider emotional intelligence in order to select and improve performance of higher-level managers as well as solving conflicts accurately by providing continuous training of managers in the field of conflict management strategies (10). Also, Harmayndr (2011), in a study titled "the relationship between emotional intelligence and effectiveness of student team," examined the 360 degree feedback emotional intelligence and group performance. The results showed that a high level of emotional intelligence and 360-degree view are correlated with various aspects of group and team learning. (11) Moreover, Pedro (2006), in a study titled "the relationship between emotional intelligence and transformational leadership at Eudora University have found that high level of emotional intelligence and degree view 360 of emotional intelligence evaluation in connection with the various aspects of transformation and leadership financial transaction that can provide a significant correlation between relationship management and emotional intelligence

measured from the point of view of 360 degrees and development leadership. (12)

Today's organizations should be dynamic to survive and managers and their employees should be creative and innovative to adapt and respond to the needs of organizations in society. (5) It has been proposed, "in the global economic system and current increasing competition, creativity and innovation are critical for the survival and success of organizations" (17). Peter Drucker believes that in a world that is changing and its security is threatened everyday; innovation is the only way to survive. (18 and 19) Economic growth, raising technology productivity and production, new product and service are among the benefits of innovations that James Stoner referred it. (13)

Necessity of creativity and innovation in organizations is to the extent that some experts proposed that lack of creativity and innovation is the same as destruction (14). Without creativity and innovation, organizations cannot survive and will be failed. Hence, organizations should constantly look for ways to increase creativity and innovation on both individual and organizational level to solve problems. (13) The importance of creativity and innovation in organizations' success is not limited to the productive sectors of the country, but also this problem is in service sectors such as hospitals that their services can quickly be copied and is more important. (15) The main objective of this paper is to examine the relationship between 360-degree view of emotional intelligence and creativity and innovation of managers at training hospitals of Shiraz Medical Sciences University.

### Research method

This is a cross-sectional study on the 71 managers in 12 Shiraz Medical Sciences University (Namazi hospital, Shahid Faghihi hospital, Hafez Hospital, Shahid Chamran hospital, Ali-Asghar hospital, Shahid Dastgheib hospital, Ghotbe Din hospital, Shoshtari hospital, Hazrat Zeinab hospital, Khalili hospital, Al Zahra and Ibn Sina hospitals) in 2012.. Samples of this study are all senior and middle managers of Shiraz Medical Sciences University (71: directors, managers, nursing directors, managers or executive assistant and supervisor).

Data collection was conducted through a questionnaire. This questionnaire consists of three sections. The first part includes 7 items of demographic characteristics of respondents, second part includes 26 questions to classify the most important factors affecting innovation and creativity of managers and third part examines the emotional intelligence of 360-degree view using 74 questions.

Five- Likert scale was used for scoring the questionnaire. Researcher has examined the face validity of questionnaire after developing the using with library research and specialized texts and collecting the opinions of professors and experts. Validity of the questionnaire was examined by a number of professors and experts and its validity was evaluated using test - retest reliability and cronbach's alpha coefficient. For this purpose, questionnaires were completed by two participants in a 3 weeks interval with a Cronbach's alpha of 0.81. The questionnaire was distributed and then collected by the people. Data was analyzed using SPSS 16 software, employing t-test and Pearson correlation.

### Results

Among the 71 distributed questionnaires between the managers in 12 hospitals, 68 questionnaires were completed. Supervisors with 51.5% (n = 35) had the highest number and heads of hospitals with 8.8% (n = 6) had the lowest number of participants in terms of organizational posts in this study. Most of the students were female with 60.3%(41 patients). The relationship between gender and emotional intelligence and emotional intelligence dimensions (self-management, relationship management and communications) of manager according to the results, the scores between men and women in self-management dimension is significant. (P-value: 0.07) Men have higher scores than women in the management of relationships (p-value: 0.037) and overall in emotional intelligence (p-value: 0.039) and female in communication dimension had higher average score (p-value: 0.04). There was no significant difference between men and women in self-management dimension. There was no significant difference between men and women in creativity and innovation dimensions.

**Table 1. The correlation between emotional intelligence and dimensions of emotional intelligence and creativity and innovation of managers in training hospitals of Shiraz Medical Sciences University in 2011**

Creativity		Innovation		Variable Emotional intelligence and dimensions
Correlation coefficient	p-value	Correlation coefficient	p-value	
0.371	0.02	0.566	<0.001	Self-management
0.356	0.003	0.528	<0.001	Relationship management
0.310	0.10	0.463	<0.001	Communication
0.388	0.01	0.688	<0.001	Emotional intelligence

Using Pearson correlation, a significant direct correlation was observed between creativity and self-management (p-value: 0.02) relationship management (p-value: 0.003) and emotional intelligence (p-value: 0.01). There was no significant correlation between creativity and communication. Also, there was a direct correlation between innovation and all the dimensions of emotional intelligence. (P-value<0.001)

**Table 2. The correlation between the dimensions of emotional intelligence (self-management, relationship management and communication) with each other in training hospitals of Shiraz Medical Sciences University in 2011**

Relationship management		Communication		Self-management		Dimensions of emotional intelligence
p-value	Correlation coefficient	p-value	Correlation coefficient	p-value	Correlation coefficient	
<0.001	0.747	<0.001	0.517		1	Self-management
<0.001	0.821		1	<0.001	0.517	Communication
	1	<0.001	0.821	<0.001	0.747	Relationship management

To investigate the correlation between communication and other aspects of emotional intelligence (self-management and relationship management dimension), Pearson correlation test was conducted and p-value for both  $0.001 >$  was obtained which indicates a direct correlation between self-management and relationship management and communication with the manager. The same result was achieved for relationship management.

### Discussion and Conclusion

The first result of this study showed the score of emotional intelligence in the studied managers and findings indicated that the mean score of emotional intelligence in managers was 298.25 (the maximum attainable score of 370). The resulting score is closer to score of

emotional intelligence in "Novak" (1997) study and this could be due to the fact that Novak's research communities were managers). Total average of emotional intelligence in managers was obtained using evaluation questionnaire of 360 as 298.28 (the maximum attainable score of 370). In a study of Ryan (2012), total average of emotional intelligence in nursing students within 3 years was 319.94 using evaluation questionnaires of 360 (the maximum attainable score of 370). Also, Momeni (2006) score obtained the average of emotional intelligence as 245.31 (the maximum attainable score of 370); he observed that managers with high organizational level had higher emotional intelligence scores. (16, 17, 18)

Goleman suggests that emotional intelligence is a predictor variable for success in leadership

and management. Strategic role of managers at the highest levels of the organization indicates that such high levels of organizational competence required. It is therefore essential to concern emotional intelligence to select and improve performance in higher-level managers. (6)

Another finding of this study indicates a difference of emotional intelligence scores in men and women so that men generally had higher scores than women. These results were not consistent to the study of Novak (1997), Novak (2015) and Lotfi (2009). It seems that this is the reason that women were more employed as supervisor, (one of the posts that are regarded as middle management) and men had the post of senior management. Novak (2015) concluded that men generally tend to work independently and without the cooperation of others and even personally attempt to solve the problems, while women in such situations consult with each other and help others; also they are more interested in-group work and communicate with others, which may explain the higher score of emotional intelligence among women. However, the scores obtained due to differences between the two groups of communication skills (10, 18, 19). Research findings showed that women had higher scores in communication, which is consistent to the mentioned studies. Another results of study showed high correlation between emotional intelligence dimensions i.e. self-management, communication and dimension relationship management with each other that is consistent with the results of the studies of Novak (1997), Flores (2007), and Novak (2015). (18-20) As the results of this study and research conducted in this regard shown, three dimensions of emotional intelligence, self-management, and communication and relationship management have a direct correlation with each other.

In conjunction with the correlations between emotional intelligence and creativity is consistent to study of Akbar Rahnama (2006), Noforesti (2009), and Gastelo. (21-23)

As results shown, there is a direct correlation between emotional intelligence and creativity, so another way of strengthening emotional intelligence is promoting the creativity of individuals. Another result was that emotional intelligence can be used as a counterbalance against personality disorders caused by

people's creativity. It seems that the relationship between emotional intelligence and creativity is two-sided, meaning that any increase leads to growth of each other's.

That study showed high correlation between managers' emotional intelligence and innovation, which is consistent to findings of the Boxer (2011). In this study results suggest a relationship between emotional intelligence and innovation to increase customer perception and this leads to effective communication between the company and customers.

Manager with his performance can also promote or prevent creativity in people. Managers need to know that their organization is a living human to interact with their tools and equipment. They must learn to adapt and thrive in the environment and improve the ability of humanitarian in organizations and other elements. In this case, managers can promote learning and innovation.

In summary, in the present study senior managers received the highest score of emotional intelligence. In terms of gender, women had higher scores than men. A positive correlation was observed between the dimensions of emotional intelligence. In general, this study showed a two-way and direct correlation between emotional intelligence and creativity as well as emotional intelligence and innovation.

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#### **Conflict of interests**

Authors declare no conflict of interest.

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