Examination of emotional intelligence in codification of job stress model among physicians: the mediating role of existential anxiety
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Abstract
Emotional intelligence is the measure of an individual’s abilities to recognise and manage their emotions, and the emotions of other people, both individually and in groups. The aim of the present study was to explore the role of emotional intelligence and existential anxiety in codification of job stress model. This research was conducted using correlational method. The statistical population included physicians employed in the hospitals. 240 physicians participated in this research. Three questionnaires; namely, emotional intelligence, existential anxiety, and job stress were prepared and distributed to among the participants. Data analysis was performed using Lisrel statistical software and structural equation modeling. The results showed that emotional intelligence can decrease job stress indirectly through mediating role of existential anxiety reduction. Therefore, strengthening emotional intelligence indicators particularly emotions and optimism, on one hand, and reducing appraisal of emotions ,on the other hand, may result in the decreased existential anxiety and job stress and; consequently, can lead to promotion of physician’s performance.

Keywords: Anxiety, Emotional Intelligence, Job, Stress

Introduction
Job stress resulted from an interaction between a person and his/her job is characterized by changes developed inside the person that hinders achieving desirable goals [1]. Experienced stress can cause some harmful effects on physical and mental wellbeing [2]. Utriainen et al., indicate that interpersonal relationships and job stress are among the most effective factors in physician’s job stress and have a close association with emotional intelligence [3]. Those people who have high emotional intelligence are able to control personal and other’s emotions, distinguish between positive and negative emotions, and utilize emotional information for intellectual process and personal activities [4]. Recognition of job stress and its causes are of importance because it can threaten physical and mental health and impair social functioning that is a serious threat for organizational performance and self-efficiency [5]. Currently, among health occupations, medicine is associated with high stressful situations and is focused on relaxation and recovery of patient. Regarding these points, people with higher levels of ability and skills to recognize and control emotions and situations experience less job stress and enjoy more mental health and better clinical practices [6,7]. On the other hand, the evidence shows that intelligence alone cannot show our success in life and workplace and emotions play a basic role in organizational stress. Smart people are able to develop emotionally the effectiveness in all the organizational levels and play a key role
Emotional intelligence and job stress in physicians

in quality and efficiency of social interactions [8]. Emotional intelligence is a necessity for job success and cover 60% of performance in all occupations. Actually, emotional intelligence is the ability of understanding, expression, recognition, application, and control of personal and other’s emotions and its important feature is the ability of regulating emotion, improving negative emotions, and developing positive and desirable emotions [9]. Studies have shown that emotional intelligence can explain mental health promotion and anxiety reduction. On the other hand, previous research is based on this hypothesis that generally in each recognition step, even in the level of problem perception, discovery and interpretation of stimulus as a threat or promise result in appropriate emotional state and action. Therefore, the area of cognition and emotion is emphasized as a basic structure in human perception and psyche. In this way, emotional intelligence can solve at least a part of problems originated from failure in understanding human behavior and social mutual relationships [10-13]. Some professionals in mental health have expressed that the contemporary world has become so unstable and uncertain that it is difficult to find a way for coping with it. This anxiety is caused by deeper perception of existence aspects. This perception refers to some fundamental issues of human life and the relationship of human with universe and existence. This state mixed with conception, anxiety, and worry is called existential anxiety [11]. Anxiety and its causes are among categories generally considered in psychology discussions and recently are focused as a personal potential feature in medicine and other health occupations [14]. Physicians are always facing with anxieties and harms from their workplace [15]. The aim of the present study was to explore the role of emotional intelligence and existential anxiety in codification of job stress model among physicians inhibited in Birjand, Iran. Therefore, the question is raised that although emotional intelligence is an effective factor in reducing job stress, does this effect appear indirectly through decreasing existential anxiety? In other words, it seems that emotional intelligence, by reducing existential anxiety as a mediator, results in the decreased job stress. Thus, the following conceptual model is presented:

![Figure 1: Theoretical model of causal relationship between emotional intelligence, existential anxiety, and job stress](image)

**Method**

This study was a correlational study utilizing structural equation modeling. The statistical population included all physicians employed in Birjand, the east of Iran, 2013-2014. Because of the small size of Birjand population, all physicians were recruited for the current study. In total, 257 out of 272 physicians agreed to participate in this study. Due to distortion of 18 returned questionnaires, they were excluded from the analysis. Finally, data of 240 participants were analyzed. This sample included 139 women (57.9%) and 101 men (42.1%). Additionally, 35 participants (14.6%) were single and 205 (85.4%) were married. The significance level of hypotheses was set at 0.05. The following tools were used for data collection:

In the present study, three questionnaires were used for data collection, including emotional intelligence, job stress, and existential anxiety. Schutte emotional intelligence questionnaire: This questionnaire includes 27 questions prepared and standardized by Schutte et al., in 1998 in the United States of America [16]. It includes three subscales of regulation and utilization of emotions (11 questions), optimism (9 questions), and appraisal of emotions (7 questions). Karami conducted a
study aiming at exploring the reliability and validity of Schutte emotional intelligence scale on 50 girl and boy students (first to fourth grade) in Sanadaj, Iran. Multi-stage cluster sampling was employed and students were asked to fill out Schutte emotional intelligence scale. The reliability was examined by internal consistency (Cronbach’s alpha) and retest which gave the values of 72% and 85%, respectively. Furthermore, for studying convergent validity, the correlation within emotional intelligence scale was calculated as 0.71 [17]. It is worth mentioning that in the present study, the tool reliability by Cronbach’s alpha for 3 subscales of appraisal and expression of emotions, regulation of emotions, and utilization of emotions were 72%, 82%, and 84%; respectively.

Health & Safety Executive’s (HSE) Management Standards for Work-Related Stress: This questionnaire includes 35 items designed by Ivancevich and Matteson in 1980 (quoted by Thong and Yap) [18]. It includes 7 subscales of job demands (8 questions), job control (6 questions), organization support (5 questions), colleague support (4 questions), relationships (4 questions), roles (5 questions), and changes at work (3 questions). Azad Marzabadi and Gholami Fesharaki explored the reliability and validity of HSE job stress questionnaire. For this purpose, 749 people of military staff were selected from a multi-stage cluster sampling. Using Cronbach’s alpha, the reliability of HSE questionnaire was obtained as 0.70, 0.67, 0.69, 0.73, 0.56, 0.57, and 0.72 for the dimensions of roles, relationships, organization support, colleague support, job control, demands, and changes; respectively. The reliability of the whole questionnaire was reported as 0.78. The results of their study showed that HSE questionnaire is a reliable and valid tool for studying job stress [19]. In the present research, the tool reliability was evaluated using Cronbach’s alpha and the value of 0.76 for job demands, 0.64 for job control , 0.70 for organization support , 0.72 for colleague support, 0.61 for relationships, 0.79 for roles, 0.56 for changes, and 0.68 for the whole scale was obtained conveying the appropriate tool reliability.

Existential Anxiety Scale (EAS): This questionnaire includes 32 questions developed by Good and Good in 1974 [20]. Five subscales are found in this questionnaire, including work aimlessness (13 questions), devalues of life meaning (4 questions), lack of ability to persuade others (5 questions), lack of interest to do work (5 questions), and lack of responsibility feeling to others (5 questions). For exploring the reliability and validity of existential anxiety scale, 226 girls and 274 boys students were chosen from high school students of Ilam province, Iran. They were asked to complete the scales of existential anxiety and social anxiety. The reliability of the research tool by internal consistency (Cronbach’s alpha) and retest method was found to be 0.86 and 0.80, respectively. For exploring convergent validity, the correlation between the scales of existential anxiety and social anxiety were calculated as 0.53 [20].

In this study, for measuring the tool’s reliability, Cronbach’s alpha was used and the results showed the reliability of existential anxiety questionnaire for all subscales between 0.76 and 0.82 reflecting an appropriate reliability. For codification of job stress in relation to emotional intelligence and existential anxiety based on conceptual modeling, Chi-square with degree of freedom, root mean square error, and comparative fit index were applied. Moreover, normal fit index was used to evaluate the proposed model because unlike in comparative fit index, the sample size is not so significant in normal fit index. However, for studying job stress model and determination of mediating role of existential anxiety, the structural equation modeling was used. It should be mentioned that mean score of each subscale was introduced as an indicator. Furthermore, confirmatory factor analysis with obtained means was explored as an indicator for each latent variable and its fitness was studied. Furthermore, the model parameters were estimated by the maximum likelihood technique, as shown in Figure 2.
Results

The assumptions of structural equation were explored in the studied model: A) If numbers of rating scales are 5 or more, probably we can treat them like interval data (of course with a little error); B) Generally, lack of uniformity in distribution of multi-variable regression does not make Lisrel model invalid, but makes it weak; C) Inconsistencies higher than 0.8 among exogenous variables indicate approval of multicollinearity. As the results of correlation coefficient in Table 1 show, because of correlation coefficient higher than 0.7 in each variable, the assumption of lack of multicollinearity was approved. The results of correlation coefficient among exogenous variables, in other words among subscales of a scale, are illustrated in Table 1. According to the obtained results, there is a rather good correlation among the subscales of each variable (including subscales of emotional intelligence) with subscales of other variables. In the examination of job stress model and determination of mediating role of existential anxiety, the paths with no significant coefficients were omitted from the model and parameters were re-estimated to ensure accurate estimation of variables and fit indicators of Lisrel. However, in the present study, no paths based on the conceptual model became significant and this model best fitted with data (Figure 2). Fit indicators showed chi-square value of 46.66 with degree of freedom of 36, which was insignificant at the level of 0.05 (p>0.05). Therefore, this model can reflect a reasonable approximation of the population and has complete fitness with data. However, the index of square root of the variance of error approximation that is used for measuring the mean residuals (errors) 0.035 which located within the confidence interval [19]. Furthermore, in this model, approximate fit index and incremental fit index were equal to 1, according to which it is concluded that the model has a good fitness with data. Cross validation index was 0.18, less than the saturated model value (0.23), and placed within the confidence interval, indicating a reasonable approximation in the population [21]. The model could explain job stress by 17%. However, in this model, the path of emotional intelligence to job stress became significant (p<0.01, β=-0.42) while in the latter model it became insignificant in the presence of existential anxiety. Therefore, existential anxiety is a mediator between emotional intelligence and job stress and the present study could explain job stress in the presence of existential anxiety by 29%. In other words, the mediating role of existential anxiety increased the explanation percentage of job stress by 12 percent that implies the significant mediating role of reduced existential anxiety. Sobel z-test, i.e. the test of relative value of indirect path versus direct path of emotional intelligence to job stress regarding existential anxiety as a mediator, became significant (z=-6.46, p<0.05) that reflects complete mediation of existential anxiety.
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*Correlation is significant at the 99% confidence level

**Correlation is significant at the 95% confidence level
Discussion

The fitted model showed that the path of emotional intelligence through existential anxiety is significant. In other words, emotional intelligence can reduce job stress indirectly through decreasing existential anxiety among physicians. Although many studies reflected this matter that emotional intelligence can increase health and happiness [22-24], in these studies merely the relationship between these two variables is explored and the direct effect of emotional intelligence on job stress and the mechanism of its effectiveness over job stress through mediating role of effective factors, including anxiety had not been discussed in a model framework.

Physicians are always subject to damages caused by anxiety; severe, long-term anxiety can cause stress which in addition to hurting body, can destroy the joy of life [22]. The results of the present study are not consistent with those of studies that have shown no relationship between existential anxiety and emotional intelligence [26]; but are consistent with those research findings reflecting a significant correlation between the mentioned variables [26]. Several studies also showed that emotional intelligence has an indirect relationship with anxiety and people with high emotional intelligence have greater ability to reduce anxiety [27,28]. However, research conducted at Harvard Medical School reflected that emotional intelligence strengthens the ability of brain in facing emotional intelligence; thus, people who are not able to use the ability of their emotional intelligence most likely resort to less efficient methods in managing their moods [29].

Regarding the significant path of existential anxiety to job stress, a previous study reflected a significant relationship between the two variables [30]. Another study also proved the influence of three dimensions of existential anxiety (i.e. work aimlessness, lack of responsibility feeling to others, and lack of interest to do work) on job stress components [31]. Totally, studies showed that stress (resulted from job or life) has negative effects on daily performance and activities of hospital staff. Therefore, identifying and strengthening positive components of existential anxiety and attempting to control
and reduce its negative components are one possible solution for reducing stress and anxiety in physicians [32]. Therefore, based on the proposed fitted model, emotional intelligence causes a reduction in job stress through mediating role of existential anxiety. Thus, emotional intelligence has no direct effect on decreasing stress. Regarding the weak path of emotional intelligence to job stress, previous studies have reported controversial results with respect to these two factors. Several research has illustrated that enhancement of emotional intelligence results in a reduction in job stress [33,34]; but other studies showed no relation of emotional intelligence to stress and employees' engagement [35].

The mechanism of stress reduction through emotional intelligence is still under the investigation. However, regarding the inconsistent results of previous studies, Oginska's research, aiming at exploring the effect of emotional intelligence on job stress and the health of staff, has shown that emotional intelligence not directly, but indirectly (by other mediating factors) affects job stress [36]. Since emotional intelligence is the product of two essential skills of individual capacity (self-awareness and self-management) and social capability (social awareness and relationship management) [37], people with high emotional intelligence reflect emotional responses more effectively, create a balance among them, and by making a reduction in anxiety, can protect themselves against damaging effects of stress [38].

In other words, to avoid negative effects of excessive anxiety, training skills of emotional intelligence is necessary, because emotional intelligence is able to moderate negative effects of excessive anxiety [26]. One limitation of the present study was related to its cross-sectional nature, so casual interpretation of the results should be done cautiously. It is suggested to conduct this kind of study on other stressful jobs, including risky ones like fire-fighting and compare the results with the findings of the present research. Furthermore, it is suggested that workshops on emotional intelligence be held to enable physicians to cope with existential anxiety and based on the present study, to reduce job stress. Moreover, holding courses for finding life meaning and reducing stress gives a rise to the promotion of job performance and reduction of stress.

**Conclusion**

The results of the study showed that strengthening indicators of emotional intelligence (especially regulation of emotions and optimism) can contribute to the reduction of existential anxiety in physicians (especially with respect to work aimlessness and lack of responsibility feeling to others). Therefore, enhancing incentives of physicians can reduce their existential anxiety. Totally, it seems that emotional intelligence contributes to better perception of life meanings and situations; so by increasing emotional intelligence, existential anxiety can be reduced in physicians and this reduction results in controlling over stressful situations and enhancing self-confidence and consequently, brings about performance improvement and prevention of negative, damaging social and personal effects of physicians’ job.

**Acknowledgments**

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**Contribution**

Study design: MJ, FSH
Data collection and analysis: MJ, FSH
Manuscript preparation: MJ, FSH

**Conflict of Interest**

"The authors declare that they have no competing interests."

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