The Relationship between Emotional Intelligence and Academic Achievement in medical science students in Iran.

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Abstract

Emotional intelligence incorporates the important aspects of interpersonal and intrapersonal relationships, adaptability, moods and stress management skills, which have a profound effect on the academic performance of students. Therefore, the present study was performed aiming at surveying emotional intelligence and its relation with academic performance of medical science students. In order to measure emotional intelligence, the instrument EQ-i questionnaire was selected. A sample consisted of two hundred and twenty-three (223) adolescent students, 70 males and 153 females, participated in this research by stratified sampling. Initially they filled the demographic data form and then they rated themselves on EQ-i test. Finally, their academic performance was appraised on the basis of their final exam, results for the last three years. In order to analyze data, regression analysis, Pearson's correlation and T-test were used.

Mean EI score was 245.94 (95 percent CI: 243.15-248.72). Pearson's correlation coefficient showed that there is a significant (r=0.14, p=0.039) relationship between emotional intelligence and academic performance while findings indicated a meaningful relation (p<0.05) between its two subcomponents emotional intelligence, and academic performance. There were significant differences in the emotional intelligence scores by habitat of students (p<0.01). Considering the low level of emotional intelligence among students the meaningful relation between total and some components emotional intelligence with academic performance, it seems very important take to emotional intelligence in to consideration students mental health improve and help them do their tasks more successfully.

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1. Introduction

Emotional intelligence (EI) has recently attracted a lot of interest in the academic literature

(Charbonneau & Nicol, 2002; Ciarrochi, Deane, & Anderson, 2002) Derived from the broader construct of social intelligence, emotional intelligence was defined originally by Salovey and Mayer (1990) as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). This definition encompasses two subtypes of personal intelligence described by Gardner (1983) intrapersonal intelligence (the ability to access one's own feeling life) and interpersonal intelligence (the ability to read the moods, intentions, and desires of others).

Emotional social intelligence is multidimensional and encompasses "no cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures" (p. 14). Bar-On emphasizes that emotional intelligence differs from cognitive intelligence and that it changes throughout life. This means it can be improved through training and relates to potential for success in achieving one's aims. Such kind of conceptualization is associated with the ability, competency, and skill to recognize, to understand, to express, to manage, to control, to change, and to adapt personal and interpersonal emotions and feelings and with using
understanding to generate positive effects and self-motivation. (Bar-On, 2004). Various investigators have engaged in research designed to examine and apply emotional intelligence constructs within academic, medical, and other learning settings. Two recent studies in the field of education or psychology indicate that results remain inconclusive. Singh et al. (2009), using an adapted version of the Visual, Aural, Read/Write, and Kinesthetic (VARK) instrument for measuring learning styles and the Self-Report Emotional Intelligence Test (SREIT) for measuring emotional intelligence on a stratified random sample of 389 university students, reported a significant positive relationship between emotional intelligence and GPA and also between learning styles and GPA. However, Johnson (2008), adopting a Gregorc style delineator and the Mayer Salovey-Caruso emotional intelligence test on a convenience sample of 111 nontraditional and traditional university students, reported no correlation between emotional intelligence and learning styles and also no statistical difference between emotional intelligence and learning styles on the basis of the GPA.

This study was designed to explore the emotional social intelligence of health science students and to investigate relationships among emotional social intelligence and academic success.

2. Methods

This study was a cross-sectional and correlational design. The EQ-i includes five scales and 15 subscales: intrapersonal intelligence (involves emotional self-awareness, assertiveness, self-regard, independence, and self-actualization), interpersonal intelligence (involves empathy, interpersonal relationship, and social responsibility), adaptability (involves reality testing, flexibility, and problem solving), stress management (involves stress tolerance and impulse control), and general mood (involves happiness and optimism). The EQ-i consists of 90 items in the form of short sentences and uses a 5-point Likert response scale. Responses to each item range from 1 = very seldom or not true of me to 5 = very often or true of me for positively or negatively keyed items. Higher scores indicate a higher level of emotional social intelligence.

The EQ-i was selected because it is a well-validated and normed instrument. It has built-in validity measures (positive and negative scales) to detect response inconsistency, to reduce response bias, and to increase the accuracy of the results. Further, normative averages have been calculated from nearly 4,000 participants of different cultures, from North America, India, Nigeria, Israel, Argentina, Germany, and South Africa. Bar-On (2004) found an overall average internal consistency coefficient of .79 and for the subscales ranging from a low of .69 (social responsibility) to a high of .86 (self-report). In this study, reliability was examined after data collection using internal consistency. The alpha coefficient for the overall EQ-i and for the five scales ranged from .70 to .81. Apart from the two instruments mentioned above, the researcher developed a sociodemographic questionnaire that collected data on age, sex, habitant, branch and mean last-year university grade-point-average (GPA) as indicators of participant academic success.

Participants

Yazd, one of the large cities of the Islamic Republic of Iran, is the center of Yazd Province. The city is located 750 km south of the capital Tehran. It has a dry climate and a population of 750,000 people. At Sahid Sadoughi University of medical science located in the province where the study was conducted, 6000 students were studying, and there were 4 schools (medicine, dentistry, college of nursing and the college of health services). Participants were determined with a cluster sampling method. Tree Classes were also randomly chosen from every school and wholly 12 classes were selected from total schools. In each selected class, a of students were selected to participate in this study. The study was restricted to the 322 participants.

From previous studies, it is known that the correlation coefficient between EI and GPA was r=0.2 with a power of 95% and a significance level of 5%. It was estimated to be 320 students.
Data analysis

The data was summarized using descriptive measures expressed as mean and standard deviation (for total score and scores on each subscale of the EQ-i:S). To test for the differences between the independent groups, student t-test and Analysis of Variance with alpha set at 0.05 was used. A Pearson correlation analysis was conducted to assess for linearity of the relationship between year of the program and EQ scores. To assess the relationship between emotional intelligence and academic success, a latent variable path model using Statistica 6 was tested.

3. Results

The sample consisted of 223 students (70 males and 153 females) who ranged from 19 to 37 years of age. The mean age was 22.73 years (SD=3.08) for males and 23.01(SD=2.73) for females.

The mean last-year university grade-point-average (GPA) was 16.08(SD=1.64) for males and 16.84 (SD=1.3) for females (p=0.001).

Table 1. Mean and standard deviation of total and subscales EQ-i:S by sex of respondents.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male sex of respondents</th>
<th>Female sex of respondents</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total emotional Intelligence</td>
<td>242.88±22.25</td>
<td>247.33±20.53</td>
<td>0.254</td>
</tr>
<tr>
<td>Intrapersonal scale</td>
<td>36.3±6.96</td>
<td>34.98±6.34</td>
<td>0.164</td>
</tr>
<tr>
<td>Interpersonal scale</td>
<td>87.1±8.31</td>
<td>88.50±8.59</td>
<td>0.135</td>
</tr>
<tr>
<td>Stress management scale</td>
<td>37.61±7.86</td>
<td>39.26±7.49</td>
<td>0.116</td>
</tr>
<tr>
<td>Adaptability scale</td>
<td>50.35±7.50</td>
<td>51.95±6.79</td>
<td>0.049</td>
</tr>
<tr>
<td>General mood scale</td>
<td>31.51±4.16</td>
<td>32.63±3.81</td>
<td>0.145</td>
</tr>
</tbody>
</table>

The means of the total and subscale of EQ-i:S according sex showed in table 1.

The difference in total EQ-i:S scores between male students and female students was not statistically significant (p =0.254). There was an also statistically significant difference noted between males and females students on Adaptability scale (p =0.049).

Table 2 presents correlations among total and subscale of EQ-i:S (interpersonal abilities, intrapersonal abilities, stress management, adaptability, general mode) with last-year university GPA, age and BMI for the total sample. The pattern of correlations was quite consistent for males and females. Low to low-moderate correlations were found between GPA and the various subscale of EQ-i:S variables.

Table 2. Correlations coefficient (r) of the EQ-i:S total and subscale scores with GPA, age and BMI

<table>
<thead>
<tr>
<th>Variable</th>
<th>GPA r</th>
<th>P-Value</th>
<th>Age r</th>
<th>P-Value</th>
<th>BMI r</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total emotional Intelligence</td>
<td>0.14</td>
<td>0.039</td>
<td>0.114</td>
<td>0.088</td>
<td>-0.09</td>
<td>0.186</td>
</tr>
<tr>
<td>Intrapersonal scale</td>
<td>0.003</td>
<td>0.961</td>
<td>0.052</td>
<td>0.438</td>
<td>-0.045</td>
<td>0.505</td>
</tr>
<tr>
<td>Interpersonal scale</td>
<td>0.094</td>
<td>0.166</td>
<td>0.033</td>
<td>0.622</td>
<td>-0.046</td>
<td>0.497</td>
</tr>
<tr>
<td>Stress management scale</td>
<td>0.143</td>
<td>0.035</td>
<td>0.14</td>
<td>0.036</td>
<td>-0.076</td>
<td>0.263</td>
</tr>
<tr>
<td>Adaptability scale</td>
<td>0.16</td>
<td>0.018</td>
<td>0.115</td>
<td>0.087</td>
<td>-0.06</td>
<td>0.381</td>
</tr>
<tr>
<td>General mood scale</td>
<td>-0.017</td>
<td>0.798</td>
<td>-0.023</td>
<td>0.734</td>
<td>-0.055</td>
<td>0.442</td>
</tr>
</tbody>
</table>
To better assess the relationship between emotional intelligence and academic success, a latent variable path model was tested (using Statistica 5.1) that examined the relationship between the measured variable of academic success (GPA) and the latent variable of emotional intelligence (indicated by the five subscale of EQ-i:S).

The results of this analysis are presented in Figure 1 and indicate a moderate association (0.41) between emotional intelligence and academic success in the total sample.

Additionally, the effect habitat students on total and subscale of EQ-i:S was evaluated. Students who lived in bedroom had higher score than students that lived in home (with parents) in the total and tree subscale of EQ-i:S (interpersonal, adaptability and stress management). The results showed in table 3.

Table 1. Mean and standard deviation of total and subscales EQ-i:S by habitat of respondents.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Bedroom mean± S.D</th>
<th>Home mean± S.D</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total emotional Intelligence</td>
<td>248.18±20.31</td>
<td>236.03±21.22</td>
<td>0.001</td>
</tr>
<tr>
<td>Intrapersonal scale</td>
<td>35.44±6.6</td>
<td>34.97±6.59</td>
<td>0.697</td>
</tr>
<tr>
<td>Interpersonal scale</td>
<td>88.78±8.24</td>
<td>85.03±9.09</td>
<td>0.015</td>
</tr>
<tr>
<td>Stress management scale</td>
<td>39.34±7.49</td>
<td>35.72±7.49</td>
<td>0.008</td>
</tr>
<tr>
<td>Adaptability scale</td>
<td>52.10±7.12</td>
<td>48.33±5.51</td>
<td>0.003</td>
</tr>
<tr>
<td>General mood scale</td>
<td>32.51±3.85</td>
<td>31.97±3.90</td>
<td>0.443</td>
</tr>
</tbody>
</table>
4. Discussion

The main focus of the present study was to examine the relationship between perceived emotional intelligence and academic achievement. The sampling was performed using the technique of cluster sampling, which limited selection bias. The study conducted that emotional intelligence skills are significantly associated and predictive of academic achievement for the university students' population. However, some skills did differ according to gender and habitat of students. The results in this study are consistent with findings from Nelson et al. (2002), Singh et al. (2009) and Parker et al. (2004). These studies concluded that emotional intelligence is correlated and highly predictive of academic achievement. Further, many studies (Johnson, 2008; Suliman, 2010) indicated no relationship between emotional social intelligence and learning abilities or between their relationships to academic success.

Academic success was strongly associated with two dimensions of emotional intelligence (adaptability and stress management). The study conducted that there was positive correlation between stress management and academic achievement, and demonstrates its predication of students success. Nelson et al. (2002) define stress management as a skill which gives one the ability to choose and have self-control in response to external stressors. Results from a study revealed that academic pressure was the stressor that most commonly led to high stress due to interpersonal difficulties. Exercise was found to be an effective means of stress management and provided additional benefits highly valued by the participants (Bolger, 1997).

The results of the present study for adaptability and stress management abilities are quite consistent with Parker et al. (2004), where very successful students had significantly higher scores on these abilities than those students who were in the unsuccessful group.

The result for intrapersonal abilities was different from Parker et al. (2004). The earlier study found that the successful post-secondary students scored significantly higher than the unsuccessful students on intrapersonal abilities. The results of current study are consistent with findings reported by Parker et al. (2004), who found no difference between the two academic groups on interpersonal abilities. The discrepancy in findings for interpersonal abilities is likely the result of the changing role of the peer group as students move from late adolescence to young adulthood (Hartup & Stevens, 1997).

The study conducted that there was no correlation between total EI and age, however there was positive correlation between stress management and age. Goleman (1998) and Bar-On (2006) who reported a positive correlation between EI and age.

The current study found the students lived in bedroom had higher scores on interpersonal scale, stress management scale and adaptability scale compared to students that lived in home.

5. Conclusions

The current study has produced some important results that have implications for both educational and clinical practice. This study demonstrated that aspects of personality such as feelings and thinking, which have previously been identified as forces that may affect one's learning styles, emotional expression, and emotional regulation (all factors of influence on emotional social intelligence), are major determinants of academic success. Moreover we found a relationship between habitat status and emotional intelligence. Further research that embraces a wide range of cultural, professional, and academic factors is warranted to enhance understanding of emotional social intelligence.

Acknowledgments

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References


