Exploring the Relationship of Emotional Intelligence with Mental Health among Early Adolescents

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Abstract

This study investigates the link of emotional intelligence (EI), with mental health scales and sub-scales (somatic symptom, anxiety, social dysfunction and depression) in Iranian high schools students. The data was made up of 247 high school students of 8 schools (124 Boy and 123 Girl). The research design was a quantitative and tests of alternative hypotheses. This study utilized General Health Questionnaire (GHQ) to measure mental health scales and sub-scales and Emotional Quotient Inventory, Youth Version (EQ-I YV) to assess emotional intelligence. Data analysis included frequencies, percentages, means scores, Pearson's correlation and, simple regression analysis. The results of this study support the hypothesis that is a significant relationship of emotional intelligence with mental health scales and sub-scales scores. In addition, this study revealed that mental health scales and sub-scales scores influences by emotional intelligence.

Keywords: Psychology, Education, Intelligence, Emotional Intelligence, Mental Health

1. Introduction

Emotional intelligence was originally recognized as having its roots in the concept of social intelligence (Thorndike, 1920; Salovey & Mayer, 1990; Goleman, 1995; Young 1996). Later, researches provided evidence that the two concepts actually represent interrelated components of the same construct (Salovey & Mayer, 1990; Damasio, 1994; LeDoux, 1996; Bar-On et al., 2003; Lane & McRae, 2004). Consequently, this broad construct was accurately referred to as "emotional-social intelligence" (Bar-On, 2006). Based on historical reference, traits such as the capacity to navigate through and to adapt to one's own environment and the possession of social and emotional "skills" are important not only to basic survival, but have implications in the areas of relationships, work, school, and emotional and mental health (Goleman, 1995; Salovey & Mayer, 1990).

Conceptual models appearing most frequently in the literatures include the Salovey-Mayer model (Mayer & Salovey, 1997), the Goleman model (1998), and the Bar-On model (2000). These models and researchers revealed the implications of emotional intelligence on mental and emotional health, relationships, self-motivation, adaptability, and problem solving; suggesting that without these skills or abilities, individuals will not be as successful. Elias et al. (2002), Bar-On (2006) and others have also claimed that the skills of Social Emotional Learning (SEL) model and emotional-social intelligence can be taught and are generalizable across

situations (i.e., work, school, social, etc.). It has been suggested that the introduction of these skills may provide a positive impact on school climate, by infusing interventions into multiple subject areas and encouraging prosocial behaviour (Graczyk et al., 2000). These findings suggested that emotional intelligence is important and should be encouraged early stages in life.

The popularity of the concept for the past decades has led researchers to examine its potency in various areas of human functioning. Among the areas with the strongest connections to EI is developmental, educational, clinical and counselling, industrial and organizational psychology. Hence, characteristic or ability EI were related to life success (Bar-On, 2001; Goleman, 1995), life satisfaction and well-being (Martinez-Pons, 1997; Bar-On, 2002; Palmer et al, 2002), individual performance (Lam & Kirby, 2002), interpersonal relationships (Fitness, 2001; Flury & Ickes, 2001), academic achievement (Van der Zee et al., 2002; Parker et al., 2004), vocational stress (Bar-On et al., 2000; Nikolaou & Tsaousis, 2002; Slaski & Cartwright, 2002), job success and performance (Dulewicz & Higgs, 1998; Vakola et al., 2004), leadership (Cooper & Sawaf, 1997; Palmer et al., 2000) and more. Several other authors (e.g. Boyatzis et al, 2000; Bar-On, 2000; Mayer et al, 2004) have developed models of Emotional Intelligence that have been found to be reliable and valid.

Today, there has been an increasing interest in how emotional reactions and experiences affect both physical as well as mental health. For example, it has been claimed that negative emotional states are associated with unhealthy patterns of physiological functioning, whereas positive emotional states are associated with healthier patterns of respond in both cardiovascular activity and immune system (BoothKewley & Friedman, 1987; Herbert & Choen, 1993).

Salovey et al., (1999) claim that individuals "who can regulate their emotional states are healthier because they accurately perceive and appraise their emotional states, know how and when to express their feelings, and can effectively regulate their mood states" (p. 161). This set of characteristics, dealing with the perception, expression, and regulation of moods and emotions, suggests that there must be a direct link between EI and physical as well as mental health.

In another study, Salovey (2001) states that the failure of emotional self-management leads to significant negative influences on health (e.g. excessive cardiovascular reactivity). He observed that people low on this dimension of EI, resorted to smoking, drinking and eating fatty foods as a way of coping to emotional stress. According to Salovey (2001) although suppressing negative feelings is neither a healthy strategy, he suggested that emotions' manifestation has a positive impact on physical health when people are confident about their abilities to regulate them. He proposed that the best way of dealing with the expression of our feelings in terms of our health is through the rule of "golden mean". "We may need to express negative feelings, but in a way that is neither mean spirited nor stifled" (p. 170). Moreover, Taylor (2001) argued that if you are emotionally intelligent then you can cope better with life's challenges and control your emotions more effectively, both of which contribute to good mental and physical health. Furthermore, Dulewicz, Higgs, and Slaski (2003), examined the role emotional self-management such as stress, distress, morale and poor quality of working life play in everyday life. They demonstrated that EI was strongly correlated with both, physical and psychological health.

On the other hand, the rise in mental health issues in adolescents is a growing concern in the school and for the community counsellors, and educators. Research has revealed an increasing incidence of depression and other mental health issues among youth (U.S. Department of Health and Human Services, 1999, Cash, 2003). In fact, increasing incidence of suicide in American adolescents has attracted more attention from the concerned authorities (Modabber-Nia et al., 2007). As the aim of education is to provide healthy personality for individuals and one of the important ingredients of education, the role of mental health is crucial not only in formal education centers but also, in informal education –such as family and societies.

Many authors claimed and reported that there existed a significant relationship of emotional intelligence with mental health (Goleman, 1995; Salovey & Mayer, 1990, Bar-On, 2005). Since, emotional functions including emotion, intelligence, and emotional intelligence can be used as a possible instrument to increase individual's mental health. Therefore, the aim of this study was to investigate the link of emotional intelligence with mental health scales and sub-scales. In addition, the current study aimed at providing more evidence regarding the relationship of EI with psychological health condition. In particular, this study examines whether EI affects the psychological aspect of health functioning.

2. Research Design

The research design of this study is quantitative research design. The researcher was interested in knowing whether there is a relationship of emotional intelligence with mental health scale and sub-scale and also, mental health scale and sun- scale can be predicted by emotional intelligence.

3. Methods

3.1 Participants

Participants in the study included ten, eleven and twelve grade students from 8 schools. The sample was made up of 247 Gorgan city, Iranian high school students (124 male and 123 female), and students reported their grade (83, ten, 82, eleven, 82, twelve).

3.2 Measures

Two instruments were used to collect data from the respondents. They include:

3.2.1 General Health Questionnaire (GHQ 28, Goldberg, 1972; Goldberg & Williams, 1998);

In 1972, Goldberg developed a simple questionnaire, the General Health Questionnaire (GHQ), which is the most widely used instrument for detecting non-psychotic psychiatric "Cases". The GHQ is a self-administered screening questionnaire used to diagnose psychiatric disorders both in primary care and in the community. The main benefits of GHQ are that it is easy to administer, brief, and objective. Several versions of GHQ are available: there is a 60-item version, and shorter versions (comprising 30, 28 and 12 items). The 28-item version (GHQ-28) developed by Goldberg and Hillier (1979) is constructed on a different basis when compared with the other versions.Responses are responded on a four-point scale ranging from "less than usual", to "much more than usual". Of the four possible ways of scoring this instrument (Goldberg & Williams, 1998), for this study the simple Likert method (0–1–2–3) was chosen. The measure yields an overall health scores (range 0–84) and is composed of four subscales described as somatic symptoms, anxiety and insomnia, social dysfunction and depression. High scores indicate high levels of psychological strain. The measure was found to have an acceptable level of internal consistency reliability (alpha = 0.92). High score on this scale indicate poor general health.

3.2.2 Emotional Intelligence Inventory, Youth Version (EQ-i YV, Bar-On and Parker, 2000);

Utilized to measure emotional intelligence, the Bar-On Emotional Quotient Inventory: Youth Version (EQ-i: YV) was developed by Reuven Bar-On, Ph.D. and James D.A. Parker, Ph.D., and published by Multi-Health Systems, Inc., in 2000. The EQ-i: YV was developed to measure emotional intelligence in adolescent populations, based on the theoretical basis of the Bar-On model of social and emotional intelligence. This 60-item inventory is a self-report instrument designed to measure emotional intelligence in young people aged 7 to 18 years. The instrument measures a cross-section of abilities and competencies that constitute the core features of emotional intelligence. Responses are invited on a four-point scale ranging from "very seldom true of me" to "very often true of me". For this study the simple Likert method (1–2–3–4) was chosen. The measure yields an overall EI scores (range 0–240). The scale has a Cronbach alpha of .74.

4. Data Analysis

The collected data were analyzed with Pearson's Correlation to investigate relationships among independent variable (emotional intelligence), and dependent variable (mental health scales and sub- scales). And also, Simple Regression Analysis (SRA) was used to analysis for whether mental health scales and sub- scales can be predicted by emotional intelligence.

5. Results

To carry out the main objective of the present study, the obtained data were subjected to a number of statistical analyses by using statistical package for social sciences (SPSS 17.0). Although the analysis most pertinent to the objectives of the study was Pearson's Correlation, Simple Regression Analysis and Descriptive Statistics were also used.

5.1 Descriptive Statistics

Table I presents the mean and standard deviations of all the observed variables. Descriptive statistics is worked out to know the pattern of score distribution. A perusal of table I reveals that the mean score on EI is 2.90 with the SD of .29; on total mental health the mean score was .91 with the SD of .43; on somatic symptoms the mean score was .82 with SD of .48, etc. (see table I)

5.2 Correlations

Correlations among all the two variables were computed through Pearson's Correlations method. It was aimed at examining the degree of association between the measures of emotional intelligence and mental health scales and sub-scales. A careful inspection of Pearson's correlation (Table - II) reveals that all the variables correlate significantly with each other. The Pearson's correlation between emotional intelligence and total mental health is

-.598 ($p < .01$, $N = 247$). There was also a negative relationship between mental health sub-scale and independent variable; between somatic symptoms and emotional intelligence ($r = -.415$, $p < .01$, $N = 247$). Among anxiety and emotional intelligence ($r = -.443$, $p < .01$, $N = 247$). Between social dysfunction and emotional intelligence ($r = -.527$, $p < .01$, $N = 247$). Among depression and emotional intelligence ($r = -.504$, $p < .01$, $N = 247$). Here the correlation of the emotional intelligence (EI) with mental health scale and sub-scales (somatic symptom, anxiety, social dysfunction and depression) is negatively significant which shows that the students with low EI (Emotional Intelligence) are having high mental health scale and sub-scales scores, so it can be said that there is a negative association between the EI with mental health scale and sub-scales scores. (See table II)

5.3 Simple Regression Analysis (SRA)

Simple regression analysis was computed to assess the strength of relationship between dependent variable and independent variables. Simple regressions analysis provides an opportunity with little ambiguity to assess the importance of each of the predictor to the overall relationship. The results of simple regression analysis for the dependent variable total mental health are presented in table III. It is clear from the results that the simple regression analysis accepted by the emotional intelligence variable as a significant predictor of total Mental Health. In overall the predictor contributed Multiple R of .598. The F Statistic computed for the significance of multiple R is 136.099, which is significant at.05 probability level.

The results of simple regression analysis for the somatic symptom are presented in table IV. In overall the predictor contributed Multiple R of .415. The F Statistic computed for the significance of multiple R is 50.835, which is significant at.05 probability level.

The results of simple regression analysis for the anxiety are presented in table V. In overall the predictor contributed Multiple R of. .443. The F Statistic computed for the significance of multiple R is 59.956, which is significant at.05 probability level.

The results of simple regression analysis for the social dysfunction are presented in table VI. In overall the predictor contributed Multiple R of .527. The F Statistic computed for the significance of multiple R is 94.166, which is significant at.05 probability level.

The results of simple regression analysis for depression are presented in table VII. In overall the predictor contributed Multiple R of .504. The F Statistic 83.642 computed for the significance of multiple R is, which is 83.642, significant at.05 probability level.

6. Conclusion

The present investigation was conducted to explain the role of emotional intelligence on mental health scales and sub-scales (total mental health, somatic symptom, anxiety, social dysfunction and depression) at school. After analyzing the results, it was found that the hypotheses of the present study {i.e., the emotional intelligence negatively correlate with the negative symptoms of mental, and emotional intelligence can predict mental health scale and sub-scales} are supported. The findings of the present study indicate that the different levels of emotional intelligence established, to some extent, related with mental health scales and sub-scales (total mental health, somatic symptom, anxiety, social dysfunction and depression). Negative correlation of emotional intelligence with negative symptoms of mental health scales and sub-scales highlights that emotional intelligence can helpful as means in dealing with mental health of school students in of Republic Islamic of Iran.

References

Bar-On, R. (2000). Emotional and social intelligence: Insights from the Emotional Quotient Inventory. *The handbook of emotional intelligence*, 363-388.

Bar-On, R. (2001). *Emotional intelligence and self-actualization. In J. Ciarrochi, J.P. Forgas, & J.D. Mayer (Eds), Emotional intelligence in every day life: A scientific inquiry* (pp. 82-97). Philadelphia, PA: Psychology Press.

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicothema*, 18, 13-25.

Bar-On, R., Tranel, D., Denburg, N., & Bechara, A. (2003). Exploring the neurological substrate of emotional and social intelligence. *Brain*, 126(8), 1790.

Booth-Kewley, S., & Friedman, H. S. (1987). Psychological predictors of heart disease: A quantitative review. *Psychological Bulletin*, 101, 343-362.

Boyatzis, R. E., Goleman, D., & Rhee, K. (2000). Clustering competence in emotional intelligence: Insights

from the Emotional Comptence Inventory (ECI). In Bar-On, R. & J. D. Parker (Eds.), Handbook of Emotional Intelligence: Theory, development, assessment, and application at home, school, and in the workplace (pp. 343-362). San Francisco: Jossey-Bass.

Cooper, R. K., & Sawaf, A. (1997). *Executive EQ: Emotion intelligence in leadership and organizations.* New York: Grosset/Putnam.

Dulewicz, v., & Higgs, M. (1998). Emotional intelligence: Can it be measured reliably and validly using competency data. *Competency*, 6, 1-15.

Dulewicz, v., Higgs, M., & Slaski, M. (2003). Measuring emotional intelligence: content, construct, and criterionrelated validity. *Journal of Managerial Psychology*, 18, 405-420.

Elias, M. J., Wang, M. C., Weissberg, R. P., Zins, J. E., & Walberg, H. J. (2002). The other side of the report card: Student success depends on more than test scores. *American School Board Journal*, 189(11), 28-30.

Fitness, J. (2001). Emotional intelligence and intimate relationships. In J. Ciarrochi, J.P. Forgas, & J.D. Mayer (Eds), Emotional intelligence in every day life: A scientific inquiry (pp. 98-112). Philadelphia, PA: Psychology Press.

Flury, J., & Ickes, W. (2001). Emotional intelligence and empathetic accuracy. In J. Ciarrochi, J.P. Forgas, & J.D. Mayer (Eds), Emotional intelligence in every day life: A scientific inquiry (pp. 113-132). Philadelphia, PA: Psychology Press.

Gardner, H. (1999). *Intelligence reframed: Multiple intelligences for the 21st century.* New York: Basic Books.

Goldberg, D. P. (1972). *The detection of psychiatric illness by questionnaire.* London: Oxford University Press.

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine*, 9(1), 139-145.

Goldberg, D. P., & Williams, P. (1998). *A user's guide to the General Health Questionnaire.* Windsor: NFER-Nelson.

Goleman, D. (1995). *Emotional intelligence: Why it can matter more than IQ.* New York: Bantam.

Graczyk, P. A., Matjasko, J. L., Weissberg, R. P., Greenberg, M. T., Elias, M. J., & Zins, J. E. (2000). The role of the collaborative to advance social and emotional learning (CASEL) in supporting the implementation of quality school-based prevention programs. *Journal of Educational and Psychological Consultation*, 11(1), 3-6.

Herbert, T. B., & Choen, S. (1993). Depression and immunity: A meta-analytic review. *Psychological Bulleti*n, 113, 472-486.

Ioannis, T., & Ioannis, N. (2005). Exploring the relationship of emotional intelligence with physical and psychological health functioning. *Stress and Health,* 21 77-86

Lam, L., & Kirby, S. (2002). Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence on individual performance. *The Journal of Social Psychology*, 142(1), 133-143.

Lane, R., & McRae, K. (2004). Neural substrates of conscious emotional experience: a cognitiveneuroscientific perspective. *Consciousness, emotional self-regulation and the brain*, 87–122.

Martinez-Pons, M. (1997). The relation of emotional intelligence with selected areas of personal functioning. *Imagination, Cognition and Personality*, 17, 3-13.

Mayer, J. D., & Salovey, P. (1997). *What is emotional intelligence? In Salovey, P. and Sluyter, D. J. (Eds.), Emotional Development and Emotional Intelligence* (pp. 3-31). New York: Basic Books.

Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and implications. *Psychological Inquiry*, 15(3), 197-215.

Nikolaou, I., & Tsaousis, I. (2002). Emotional intelligence in the workplace: Exploring its effects on occupational stress and organisational commitment. *The International Journal of Organizational Analysis*, 10, 327-342.

Palmer, B., Donalson, C., & Tough, C. (2002). Emotional intelligence and life satisfaction. *Personality and Individual Differences*, 33, 1091-1100.

Palmer, B., Walls, M., Burgess, Z., & Stough, C. (2000). Emotional intelligence and effective leadership. *Leadership and Organization Development Journal*, 22, 5-11.

Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academic

success: Examining the transition from high school to university. *Personality and Individual Differences*, 36, 163-172.

Salovey, P. (2001). Applied emotional intelligence: Regulating emotions to become healthy, wealthy, and wise. In J. Ciarrochi, & J.P. Forgas (Eds), Emotional intelligence in everyday life: A scientific enquiry (pp. 168-184). PhiladelphiaPA: Taylor & Francis.

Salovey, P., Bedell, B., Detweiler, J., & Mayer, J. (1999). Coping intelligently: Emotional intelligence and the coping process. *Coping: The psychology of what works*, 141-164.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9, 185-211.

Slaski, M., & Cartwright, S. (2002). Health, performance and emotional intelligence: An exploratory study of retail managers. *Stress and Health*, 18 63-68.

Taylor, G. J. (2001). Low emotional intelligence and mental illness. In J. Ciarrochi, & J.P. Forgas (Eds), Emotional intelligence in everyday life: A scientific enquiry (pp. 67-81). Philadelphia, PA: Taylor & Francis.

Thorndike, E. L. (1920). Intelligence and its uses. *Harper's Magazine,* 140, 227-235.

Vakola, M., Tsaousis, I., & Nikolaou, I. (2004). The effects of emotional intelligence and personality variables on attitudes toward organizational change. *Journal of Managerial Psychology*, 19 88-110.

Van der Zee, K., Thijs, M., & Schakel, L. (2002). The relationship of emotional intelligence with academic intelligence and the Big Five. *European Journal of Personality*, 16, 103-125.

Table I. Descriptive Statistics of the independent and dependent variable

Variables		**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Emotional Intelligence (EI)		247	2.15	3.67	2.9028	.29031
Total Mental Health		247	.04	2.04	.9110	.42770
Mental Health Sub-scales						
	Somatic Symptoms	247	.00	2.57	.8184	.48238
	Anxiety	247	.00	3.86	.9213	.54612
	Social Dysfunction	247	.00	2.14	1.0891	.40529
	Depression	247	.00	3.43	.8155	.72666

Table II. Results of Pearson's correlation (enter)

Variables	**EI**	**PMH**	**SS**	**A**	**SD**	**D**
Emotional Intelligence	1.00					
Total Mental Health	-.598**	1.00				
Somatic Symptom	-.415**	.761**	1.00			
Anxiety	-.443**	.810**	.494**	1.00		
Social Dysfunction	-.527**	.678**	.402**	449**	1.00	
Depression	-.504**	.862**	.533**	.576**	435**	1.00

Note. Correlation is significant at the 0.01 level (2-tailed).

Table III. Results of Simple Regression Analysis of Total Mental Health

Variables	Summary of Regression	Un-std Coefficient B	Un-std Coefficient Std. Error	Std. Coefficient Beta	t	Sig. Value
(constant)		3.467	.220			
Emotional intelligence		-.880	.075	-.598	-11.666	.000
Multiple R	.598					
R Square	.357					
Adjusted R Square	.354					
F- Statistics	136.099					

Note. Predictor: (Constant), EI. Dependent Variable: Total Mental Health, $p < .05$, $N = 247$

Table IV. Results of Simple Regression Analysis of Somatic Symptom

Variables	Summary of Regression	Un-std Coefficient B	Un-std Coefficient Std. Error	Std. Coefficient Beta	t	Sig. Value
(constant)		2.818	.282			
Emotional intelligence		-.689	.097	-.415	-7.130	.000
Multiple R	.415					
R Square	.172					
Adjusted R Square	.168					
F-Statistics	50.835					

Note. Predictor: (Constant), EI. Dependent Variable: Somatic Symptom, $p < .05$, $N = 247$

Table V. Results of Simple Regression Analysis of Anxiety

Variables	Summary of Regression	Un-std Coefficient B	Un-std Coefficient Std. Error	Std. Coefficient Beta	t	Sig. Value
(constant)		3.343	.314			
Emotional intelligence		-.834	108	-.443	-7.743	.000
Multiple R	.443					
R Square	.197					
Adjusted R Square	.193					
F-Statistics	59.956					

Note. Predictor: (Constant), EI. Dependent Variable: Anxiety, $p < .05$, $N = 247$

Table VI. Results of Simple Regression Analysis of Social Dysfunction

Variables	Summary of Regression	Un-std Coefficient B	Un-std Coefficient Std. Error	Std. Coefficient Beta	t	Sig. Value
(constant)		3.224	.221			
Emotional intelligence		-.736	.076	-.527	-9.704	.000
Multiple R	.527					
R Square	.278					
Adjusted R Square	.275					
F-Statistics	94.166					

Note. Predictor: (Constant), EI. Dependent Variable: Social Dysfunction, $p < .05$, $N = 247$

Table VII. Results of Simple Regression Analysis of Depression

Variables	Summary of Regression	Un-std Coefficient B	Un-std Coefficient Std. Error	Std. Coefficient Beta	t	Sig. Value
(constant)		4.481	.403			
Emotional intelligence		-1.263	.138	-.504	-9.146	.000
Multiple R	.504					
R Square	.255					
Adjusted R Square	.251					
F-Statistics	83.642					

Note. Predictor: (Constant), EI. Dependent Variable: Depression, $p < .05$, $N = 247$

ISSN 1918-7211 E-ISSN 1918-722X