

Health Promotion and Emotional Intelligence

Razieh Khosrorad¹, Sakineh Soltani kouhbanani², Seyed Jamal Mirmoosavi³

1. PHD in Psychology, Research Center on Social Determinants of Health, Sabzevar University Of Medical Science, Sabzevar, Iran
2. PHD in Psychology, Member of the Scientific Board of Ferdowsi University of Mashhad, Mashhad, Iran
3. MD, MSc in Medical Education, Vice-Chancellor for Health Affairs, Sabzevar University of Medical Sciences, Sabzevar, Iran

***Corresponding author:** Dr Seyed Jamal Mirmoosavi

ABSTRACT: Aim and scope: in a traditional definition, intelligence has been considered as the ability to adapt effectively to the environment. Wechsler intelligence has defined intelligence as general ability which cannot be separated from emotions and feelings. Hence, with regard to interconnectedness of cognition and emotion, the importance of emotion in adaptive behavior is confirmed. Hence, the present study aims to investigate the relationship between emotional intelligence and health. Materials and methods: in this correlation study, 360 bachelor's students studying in Islamic Azad University of Sabzevar during 2012-2013 were selected, and examined using public health and emotional intelligence questionnaires. In this study, stepwise simple and multiple regression method has been used. Emotional intelligence has been a good predictor for health. Health changes can be predicted through emotional intelligence and its components. The component "self-control" followed by "self-consciousness" is the strongest predictor for health changes. Emotional intelligence could determine 39.7% of general health changes. Using the results of research, it is suggested to propose emotional skills training program to improve health, with a huge emphasis on "self-control" and "self-consciousness" training.

Key Words: self-control, self-consciousness, emotional intelligence, students, health promotion

INTRODUCTION

Concept of intelligence is of difficult concepts for which an in-depth definition cannot be proposed. The reason for this lies on researchers' and theorists' disagree on the adoption of a certain definition. According to the traditional definition, intelligence has been considered as the ability to adapt effectively to the environment. Wechsler (1940) has defined intelligence as the general ability which cannot be always separated from emotions and feelings. Piaget (1952) has defined intelligence as the interconnectedness of cognition and emotion. With this description, importance of emotion is confirmed in adaptive behavior in an indirect way. Emotions are considered as an important source of information for the individuals, and processing such information will be followed by important outcomes at the area of organized action (Salovey & et al., 1995). Theorists have confirmed the role of emotions in their interpretations from intelligence, and have considered the concept of emotion in their new definitions. Salovey & Mayer (1990) proposed a new concept for emotional intelligence and defined it in this way: the ability to identify emotions in oneself and others, the distinction between them and use this information to guide one's thoughts into action. This is in a way that emotion has lost its central value and no place has been considered for it in human's health, yet later it has been proposed as the basic element of human behavior including successes and failures which have been attributed to intellectual intelligence. Use of emotions is unavoidable in social and emotional learning programs, because in addition to cognitive development and academic achievement at the current age, it should have been paid attention to students' social-emotional development and prepared them for cooperation and participation at job, responsible decision making, influence of collective communication, resistance to peer pressure. Emotional business has a special place in therapy which aims to create mental health (Schore, 1994). The main aim of scholars at the areas of medicine and psychology is to maximize health in individuals; in this regards, Sarason, I.G. (2003) have shown that health is a personal perception which changes under influence of physical, psychological and economic agents. Hence, emotion as a psychological agent plays a major role in health perception, because today a particular attention has been paid to this fact that there is a full interconnectedness of emotion regulation and biological detection schemes. Emotional

Intelligence theory provides a new view on prediction of factors affecting success and prevention of psychopathy, so that the studies on depression, eating disorders, delinquency and aggression in adolescents indicate an important role of emotional intelligence in treatment of these disorders (Goleman, 1995). There are findings at the area of health which put an emphasis on the relationship between mental health and emotional intelligence or some of its components. For instance, there are evidences on the role of emotional intelligence to modulate stress and improve mental health, suggesting that some components of emotional intelligence lead to better adjustment. For instance, there is a significant relationship between tending to maintain a positive mood and controlling emotion, leading to prevention from depressive states (Ciarrochi, J. et al., 2002). Studies by Salovey et al. (1995) concerning Triat-Mood-Scale (TMMS), showed that there is a significant relationship between perceived emotional intelligence and mental functions; further, there is a significant relationship between high emotional intelligence and "depression, low social anxiety, empathy and interpersonal satisfaction and adaptive coping styles". High Attention of emotion is followed by Cortisol levels and lower blood pressure, where this is important in physical health. In addition, high Attention of emotion associates to personal and collective Self-awareness and empathy. Gorbani et al. (2002) in a cross-cultural examination (Iran and U.S) have obtained findings similar to the findings of research by Salovey et al. (1995); according to their findings of research, repair of emotion is consistent with high self-esteem and low anxiety, depression and stress. Various studies have shown deficiency in the regulation of emotions and emotional intelligence in some disorders including Borderline Personality Disorder, Schizotypal, Schizophrenia and Depression and anxiety disorders (Gardner and Qualter (2009); Mashhadi, Soltani and Razmjo (2010); Kay et al., 2009; Fernandez and Beck, 2005; Manin et al. 2004).

According to the findings obtained in the context of emotional intelligence, the present research aims to achieve the goals as follows

examine the relationship between emotional intelligence and health promotion among students
examine which components of emotional intelligence (Self-control, Self-motivation, Emphaty and Sociality of skills) can predict health

MATERIALS AND METHODS

The present study is a descriptive correlation study. The statistical population consists of all bachelor students studying in Islamic Azad University of Sabzevar of which 360 bachelor's students were selected as sample group. Freshman Students were removed, because freshman is considered for adjustment. 130 and 160 of the students were boy and girl, respectively. Multi-stage sampling method has been used to select sample group. In multi-stage sampling, the individuals are selected concerning hierarchy of units of The Society. For this purpose, 20 classes were selected in random among all the specialized classes at the University and the considered sample was selected among these classes. To collect data, two questionnaires were used.

General Health Questionnaire (GHQ): this is a self-report questionnaire which is used to track the ones who are affected to mental disorder, and developed by Goldberg. This questionnaire contains 28 items with 4 sub-scales which include somatic symptoms, anxiety, social dysfunction and severe depression. Goldberg et al. have reported validity and internal consistency of questionnaire through Cronbach's alpha equal to 0.78 and 0.64, respectively [7]. In Iran, Hooman and Taghva have also examined and confirmed validity and reliability of questionnaire [8, 9]. In this study, convergent validity has been used to examine validity of questionnaire, and correlation of data from implementation of the General Health Questionnaire and the SCL-90-R 72/0 were calculated, and the reliability of questionnaire has been calculated through Cronbach's alpha equal to 0.84.

Emotional intelligence questionnaire of Siberiashring: this questionnaire has been developed and examined by Gerabket in 1996; he has examined validity and reliability of this test and introduced this test reliable (Salehi, 2003). To conduct this study, Persian version of this questionnaire which has been translated and validated by Behzad Mansouri (2003) at the Allameh Tabataba'i University, has been used. This questionnaire consists of 33 questions including 5 components. Five-point Likert scale including the self-motivation, self-awareness, self-control, social awareness, social skills has been used, where an inverse scoring has been reported in some questions. Mansouri has normalized the questionnaire on all bachelor's students in state Universities of Tehran in 2003-2004, and has used construct validity to determine validity, for which he has calculated correlation of participants' scores in two Coopersmith's self-esteem test and emotional intelligence test, and then he has confirmed construct validity. Mansouri has used Cronbach's alpha to determine reliability. Cronbach's alpha method has been used to examine reliability of test, and the value of Cronbach's alpha coefficients for each of components and all the test include: self-motivation (0.58), self-awareness (0.65), self-control (0.68), empathy (0.50), social skills (0.52), and all the test (0.71).

Findings

To examine the relationship between emotional intelligence and general health, firstly correlation coefficient between "each of indicators of general health and its components" and "emotional intelligence and its components" was calculated. The correlation between components of general health and emotional intelligence ranging from -0.11 to -0.73 indicates a negative correlation between "emotional intelligence and its components" and "general health and its components"(table 1).

Table 1. Pearson correlation coefficients between components of emotional intelligence and general health

components of emotional intelligence and general health	Somatic Symptom	Anxiety	Social dysfunction	Depression	General health
self-motivation	-0/07	-0/04	-0/10	-0/09	-0/07
self-awareness	**_0/39	**_0/43	**_0/40	**_0/50	**_0/50
self-control	**_0/43	**_0/49	**_0/34	**_0/54	**_0/54
Empathy	**_0/33	**_0/43	**_0/33	**_0/42	**_0/42
social skills	*_0/13	*_0/13	**_0/11	**_0/23	**_0/23
Emotional intelligence	**_0/45	**_0/50	**_0/43	**_0/60	**_0/60

** Significance at 0.01 level
 *significance at 0.05 level

As the main purpose of this study is to predict health through emotional intelligence, thus simple regression analysis was used for this prediction(table 2). The correlation coefficient between emotional intelligence and general health equals to -0.63, and this relationship is significant at 0.001 significance level.

Table 2. Regression analysis for general health in terms of emotional intelligence

Criterion variable	Predictor variable	R	R ²	Adjusted R ²	Standard error
Health	emotional intelligence	-0/63	0/397	0/395	0/423

With regard to results of table 2, it can say that the score for emotional intelligence can predict 39.7% dispersion of health.

Table 3. Results of simple regression analysis for general health in terms of emotional intelligence

Predictor variable	Source of variations	Sum of squares	Freedom degree	Mean of squares	f-value	Significance level
emotional intelligence	Regression	30/516	1	30/516	170/863	0/000
	Residuals	46/258	259	0/179		

Table 3 indicates the f-value for emotional intelligence equals to 170.863, which is significant at p<0.0001, i.e. there is a significant relationship between emotional intelligence and general health.

Table 4. Regression coefficients for the predictor variable(emotional intelligence)

	B	Standard error	Beta	T	Significance level
Fixed value	4/453	0/248		17/931	0/000
emotional intelligence	-1/027	0/079	-0/63	-13/071	0/000

As shown in table 4, it can perceive that t-value for the predictor variable equals to -13.071, which is significant at 0.0001 level.

Linear equation based on fixed value and coefficient B for the predictor variable of emotional intelligence is as follow:

Linear equation
 $FF=4/435+(-1/027)MM$
 $y'=4/435-1/027x$

Negative regression indicates a negative correlation between general health and emotional intelligence. Stepwise multiple regression analysis was used to give a response to the second question of research. In this analysis, predictor variables including components of emotional intelligence(self-awareness, self-control, empathy) based on value of zero-order correlation coefficient were entered into the analysis at sequential steps, so as to specify the extent of prediction for health changes.

Table 5. Results of stepwise regression analysis for the variable health based on self-control , self-awareness and empathy

Predictor variable	Source/indicator	Sum of squares	Mean of squares	df	F	P
self-control	Regression	26/889	26/889	1	/199	0/000
	Residual	47/408	0/185	256	145	
self-awareness	Regression	35/564	17/782	2	/065	0/000
	Residual	38/734	0/152	255	117	
empathy	Regression	36/913	12/304	3	83/598	0/000
	Residual	37/381	0/147	254		

Table 6. Results pertaining to determination coefficient

Criterion variable		R	R ²	Adjusted R ²	Standard error	ΔR ²
General health	self-control	0/602	0/362	0/359	0/430	0/362
	self-control and self-awareness	0/692	0/479	0/475	0/390	0/117
	self-control , self-awareness and empathy	0/705	0/497	0/491	0/383	0/018

As shown in table 5 and 6, it can perceive that the component "self-control" was entered into regression equation at the first step, and the value of determination coefficient for this component was obtained equal to 0.36, i.e. this component predicts 36% of total variance for health. At the second step, self-control and self-awareness were entered into the equation, and the determination coefficient for them equaled to 0.479; further, ΔR² equaled to 0.117, i.e. the component " self-control and self-awareness " predicts 11.7% of variance of health. At the third step, self-control, self-awareness and empathy were entered into the equation, and the determination coefficient for them equaled to 0.479; further, ΔR² equaled to 0.018 for the component "self-control , self-awareness and empathy", i.e. empathy predicts 1.8% of total variance of health after entering the variables 1 and 2.

Table 7. results pertaining to regression coefficients

Criterion variable	Predictor variable	b	Standard error	B	t	p	
General health	Fixed variable	2/685	0/125	0/62	21/502	0/000	
	Self-control	0/503	0/042		-12/05	0/000	
	Fixed variable self-control	3/693	0/175	0/436	21/117	0/000	
	self-awareness	0/369	0/042		-8/686	0/000	
	Fixed variable self-control self-awareness	422	0/056	-0/381	0/380	-7/557	0/000
	Empathy	3/84	0/179		-7/237	21/466	0/000
		-0/322	0/045	-0/324	-6/155	0/000	
		-0/361	0/059		-3/028	0/003	

As shown in table 7, t-values and significance level indicate significance of regression coefficients, such that self-control has the greatest role in prediction of general health. In this regard, regression equation for prediction of health in terms of components of emotional intelligence is as follow:

$$y' = 3/84 - 0/322x_1 - 0/324x_2 - 0/164x_3$$

DISCUSSION

Study on health and its dimensions and predictor variables due to high importance of this topic of interest has been drawn into attention by physicians, psychologists and philosophers. During the history, the beliefs about

health and disease, effective patterns for health, diagnosis and healing the disease have been changed. Today, modern attitudes have been developed for health which put an emphasis on impact of biological, psychological and social factors on determination of health and disease. Perhaps, it can believe in increasing health level among individuals throughout the community as the major goal of psychology science regarding numerous studies which have been conducted at the area of health and mental health. The first finding of this research lies on the significant relationship between general health and emotional intelligence, for which the correlation coefficient has been reported equal to -0.63. the correlation coefficient indicates that there is a relatively negative significant relationship between general health and emotional intelligence, i.e. the more score of emotional intelligence increases, the score of general health decreases, and consequently general health increases. Results of regression analysis indicate that the f-value (170.863) for the variable of emotional intelligence is significant at 0.0001 level, i.e. emotional intelligence can predict health changes. R^2 obtained from regression analysis indicates that 39.7% of general health changes predict emotional intelligence.

The results of the present study are consistent with the findings of research by Salovey et al.(1995) concerning Trait Meta Mood Scale (TMMS) indicating that there is a significant relationship between emotional intelligence, psychological and interpersonal functions. Further, the results of this study are consistent with the results of research by Bar-on(1999) in examination of the relationship between emotional intelligence and mental health, in which data from emotional intelligence test were compared with the scores obtained from test Scl-90-R through Bar-on's questionnaire(Bar-on, 2000). In addition, the results of this study are consistent with the findings of research by Ghorbani et al.(2002), Meyer and bracket (2003), Ntl Warwick and Beck (2003).

The results of the present study are consistent with the results of this study. in a study entitled "an in-depth meta-analysis of the relationship between emotional intelligence and mental health" with the statistical population (721) and sample size(30), findings indicated that the relationship between emotional intelligence and mental health is significant at 0.47 confidence level. This implies that there will be a stronger relationship between emotional intelligence and mental health when the emotional intelligence is evaluated as a characteristic rather than an ability(Jamali, Abedi, Aghaei&Zare, 1998). In a study by Khosrojerdi&Khanzade(2007) entitled "an investigation into the relationship between emotional intelligence and mental health among students", findings indicated that emotional intelligence enabled to predict 48% of the changes in mental health.

To perceive this finding, it can refer to the definitions of emotional intelligence and health. According to a definition proposed by world health organization for health, health implies: Health is a state of complete physical, mental and social well-being, where three biological, psychological and social factors are emphasized in determination of health. Attention to emotions and their suitable use in human relations, understanding emotions in oneself and others, restraint and dominate the immediate demands, empathy with others, positive use of emotions in thoughts and cognition might be issues pertaining to emotional intelligence. Hence, with regard to what mentioned above, interconnectedness of cognition and emotion is obvious, because the person who enjoys a high emotional intelligence evaluates his emotional state properly and knows how to express his feelings and modulate his mood states, thus he has a correct feeling from himself and his surrounding world, in order that he can understand others' feelings and help them and get help from them in necessary occasions, as the result he will be in a good mental, social and physical states. Another finding of this research is the possibility for prediction of mental health through emotional intelligence components, that the results indicate that three components self-control, self-awareness and empathy can predict health changes. In the meantime, self-control has the highest power for prediction which predicts 36% of emotional intelligence changes, and then there is self-awareness which predicts 12% of emotional intelligence changes, and finally there is empathy which predicts 1.6% of health changes.

Goleman (1995) emphasizes on the role of self-awareness as one of components of emotional intelligence in mental health, and says that the individuals with high self-awareness about their mental state are self-conscious about their life such that they know their personal limits and enjoy a good mental health. Various studies have shown that the better individuals analyze, describe and classify their experiences, they will more enjoy more mental health (Goleman, 1995). The more individuals' awareness from their feelings and emotions increase, they can improve their ability to control them better. Notably, empathy can predict health changes, i.e. the person's high awareness can help for understanding others' feelings and emotions, whereby this can modulate the person's mental states through interference in coping with crisis. Empathy causes improving person's relationship with others and increases the possibility for access to social support network, whereby the person will benefit from empathy to rely on these supports when stressed and affected by crisis. Access to social support network paves the way for detection of emotion, considering the fact that detection of emotion causes improving the action of the immune system. Social support is beneficial for the person's mental adjustment with stressful events and recovery of disease and even rescue from death. The results from studies indicate that there is a positive relationship

between emotional intelligence and life satisfaction, social interactions, and quality of life, and there is a negative relationship between emotional intelligence and sense of loneliness and depression (Salovey et al. 2004). Roemer et al. (2009) examined mindfulness and emotion regulation difficulties in generalized anxiety disorder. To sum up, the ultimate deduction of this study lies on the assumption over huge impact of psychological, social and biological factors on determination of health and disease (Taylor, 1995). This attitude examines the psychological, social and biological factors such as personal habits, stress levels, personality traits and abilities and interpersonal skills which pertain to health. Emotional intelligence as a psychological agent associates to health, because there exist skills in emotional intelligence which facilitate processing emotional information, cause cohesion of thought, improve person's performance, improve social relations and guarantee person's health. Hence, it is suggested formulating emotional intelligence training process for improving mental health and conducting studies to examine the relationship between two variables of general health and emotional intelligence among students and typical individuals.

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