Moderating Influence of Gender on the Link of Spiritual and Emotional Intelligences with Mental Health among Adolescents

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Abstract: This study examined whether, Spiritual Intelligence (SI) and Emotional Intelligence (EI) can be considered as predictor for Mental Health (MH). Also, this study explored the moderating effects of gender on the link between SI and EI with MH among high school students. The participants in the study were 247 high school students, (124 male and 123 female, in the age range between 14-17 years old) at the Gorgan City, north of Iran. The research design was an ex post facto and tested the alternative hypotheses. Three valid and reliable instruments were used to assess SI, EI and MH. Descriptive statistics, multiple and moderated regression analysis were used to analyses the data. The result demonstrated that MH can be influence by SI and EI. In addition, the moderating effect of gender on the relationship of SI and EI with MH was not established.

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1. Introduction

Adolescence is a critical developmental period characterized by biological, cognitive, and psychosocial changes in young people. This stage in a young person's life presents opportunities for positive psychosocial growth and healthy life choices and conversely, the potential for the development of psychological difficulties and engagement in precarious behaviors (Crockett & Petersen, 1993). Though mental, emotional, and behavioral challenges may emerge during adolescence (Kazdin, 1993) many, if not most, young people negotiate this life stage without serious difficulty (Petersen, 1988; Loh & Wragg, 2004). The literature, however, acknowledges an increase in negative social and psychological development trajectories (i.e. teen depression) for today's generation of adolescents (Small & Covalt, 2006), exemplifying the need for continued focus on the psychosocial well-being of this group. As current treatments for mental disorders in adolescence are costly (Ringel & Sturm, 2001), and underutilized (US Department of Health and Human Services [USDHHS], 1999), departing from the more prevalent pathology or deficit based model of examination (Loh & Wragg, 2004).

MH is essential to the overall health and well-being of adolescents (World Health Organization [WHO], 2004). The WHO conceptualized MH separate from mental ill-health and defined the concept as: a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community. (WHO, 2007, p. 1) Previous studies are clear on the influence of better MH versus mental ill-health for the individual and society. Individually, MH affects our expressive, cognitive, perceptive, relational, and coping abilities, undergirding our general health and wellbeing and capacity to integrate into and become productive members of society (Dwivedi & Harper, 2004). Better MH outcomes in adolescents are characterized by greater adaptation in family, school, and society environment, improved quality of life, and reduced symptoms of psychological disorders (Hoagwood et al., 1996; USDHHS, 1999). Positive MH is also linked to better physical health, increased pro-social behaviors, and participation in less adverse behaviors in adolescence (Resnick, 2000). On a societal level, MH is perceived as a positive source contributing to asset development individually, socially, and economically (WHO, 2004). Conversely, poor MH and well-being (i.e. depression, low self-esteem) during the adolescent years can lead to adolescent health risk behaviors, school failure, physical ill-health, suicide, involvement in juvenile and criminal justice systems, negative life choices, and mental disorders in adulthood (Lewinsohn et al., 1993; Canals, et al., 2002; Trzesniewski et al., 2006; Hjemdal et al., 2007).

There was some evidence that SI and EI development and spiritual and emotional experiences are helpful for health. At the same time, there is a significant relationship between awareness of spiritual and emotional experiences and health (Hay& Morisy,

1978; Hay, 1982; Ioannis & Ioannis, 2005). As whole, it seems spiritual and emotional functions including SI, EI and its components can be used as an instruments in relates with individual MH.

EI was originally recognized as having its roots in the concept of social intelligence (Thorndike, 1920; Salovey & Mayer, 1990; Goleman, 1995). Later, researches provided evidence that the two concepts actually represent interrelated components of the same construct (Salovey & Mayer, 1990; 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 MH (Goleman, 1995; Salovey & Mayer, 1990).

Today, there has been an increasing interest in how emotional reactions and experiences affect on 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 response in both cardiovascular activity and immune system (BoothKewley & Friedman, 1987; Herbert & Choen, 1993).

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), physical and mental health (Ioannis & Ioannis, 2005), interpersonal relationships (Fitness, 2001; Flury & Ickes, 2001), academic achievement (Van der Zee et al., 2002; Parker et al., 2004), and more.

Also, considering Gardner's theory, existential intelligence can be define as an ability to find and realize meaning in life (Halama & Strizenec 2004). Based on this definition, Halama & Strizenec (2004) suggested that the ability to find and realize meaning in life is an important element of SI. Since SI involves a set of abilities that draw on spiritual resources, it can be concluded that existential and SI is non-identical but mutually related and overlapping construct (Halama & Strizenec 2004). Drawing on Gardner's definition of intelligence, Emmons (2000b) argued that spirituality can be viewed as a form of intelligence because it predicts functioning and adaptation and offers capabilities that enable people to solve problems and attain goals. Earlier, Emmons (1999) defined spirituality as the search for, and the experience of elements of sacred meaning, higher consciousness, and transcendence, SI entails the abilities that draw on such spiritual themes to predict functioning and adaptation and to produce valuable products or outcomes. Zohar & Marshall (2000) stress the utility of SI in solving problems of meaning, value, and those of an existential nature, concurring with Vaughan (2002) and Wolman (2001). Looking at spirituality through the lens of intelligence, Emmons (1999) writes, "SI is a framework for identifying and organizing skills and abilities needed for the adaptive use of spirituality" (p. 163). Hence, SI can be differentiated from spirituality in general, spiritual experience, (e.g. a unitary state), or spiritual belief, (e.g. a belief in God), (Amram, 2007). However, the theory and research of the spirituality and SI were well reviewed by many authors and researchers (Emmons, 1999; MacHovec, 2002; Mark, 2004; Schuller, 2005; Sisk & Torrance 2001; Wolman, 2001; Zohar & Marshall, 2002; Nasel, 2004; Amram, 2009).

However, many authors claimed and reported that there existed a significant relationship between EI and MH (Goleman, 1995; Salovey & Mayer, 1990, Bar-On, 2006; Ioannis & Ioannis, 2005), and SI and MH (Emmons 2000; Nobel, 2000). Also, spiritual functions including SI and its components can be used as a possible instrument to increase individual's MH (West, 2004). Therefore, the aim of this study was to investigate the relationship between SI and EI with MH. In addition, the current study aimed to explore the effects of moderator variable (gender) on the relationships between the independent (SI & EI) and dependent (MH) variables.

2. Material and Methods

2.1. Sample

Two hundred and forty seven Iranian high school students in Gorgan city, north of Iran (124 females & 123 males age range between 14 – 18 years) were recruited as participant in this study. They were recruited at random sampling, and their participation was voluntary and anonymously.

2.2. Procedure

Data were collected by means of structured questionnaires and by taking class as a unit. Based on verbal agreements of the training lecturers and participants, the questionnaires forms were distributed to the 247 high school students. Participants were asked to complete the questionnaires simultaneously at the start of a core lecture and return them to their lecturer on the spot. All completed questionnaires were passed on to the researchers. All participants were informed that participation was voluntary and anonymous.

2.3. Measures

All participants responded to an Iranian translation of the three instruments in this study include:

2.3.1. The Integrated Spiritual Intelligence Scale (ISIS, Amram & Dryer, 2008).

Amram & Dryer's Integrated Spiritual Intelligence Scale (ISIS) reviewed and chosen for measure of SI due to its comprehensive nature and strong psychometric properties (Amram & Dryer, 2008). ISIS is an 83-item long form, and a 45-item short form, self-report and observer-rated instrument containing 22 subscales assessing separate capabilities that are grouped into five main domain scales of spiritual intelligence. Responses are answered a six-point scale ranging from "never or almost never" to "always or almost always". For this study a 45-item short form, self-report and the simple Likert method (1–2–3–4–5–6) was chosen. The measure yields an overall SI score (range 0–270). The scale has a Cronbach alpha of 0.76.

2.3.2. Emotional Intelligence Inventory, Youth Version (EQ-i YV, Bar-On & 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 score (range 0–240). The scale has a Cronbach alpha of 0.74.

2.3.3. 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 score (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. 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). Besides, descriptive statistics, multiple and moderated regression analysis were also used in this study.

3.1. Descriptive statistics;

Table 1 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 1 reveals that the mean scores on SI is 3.93 with the SD of .36, EI is 2.90 with the SD of .29, and on MH the mean scores was .91 with the SD of .43. (See table 1)

3.2. Multiple Regression Analysis (MRA);

MRA was computed to assess the strength of relationship between dependent and independent

variables. MRA provides an opportunity with little ambiguity to assess the importance of each of the predictors to the overall relationship. The results of regression analysis for the dependent variable (MH) are presented in table 2. It is clear from the results that the regression analysis accepted both the variables (SI & EI) as a significant predictor of MH. In overall both the predictors contributed Multiple R of .640. The F ratio computed for the significance of multiple {F (2,244) = 48.98, P < .05}.

3.3. Moderated Multiple Regression (MMR);

Moderated Multiple Regression (MMR) was employed in examining the effects of moderator variable (gender) on the relationships between the independent (SI & EI) and dependent (MH) variables.

MMR involves two steps. First, it is needed to form two regression equations, one includes the first-order only and a second model include the first-order effects as well as a product term including the moderator variable. In this research, the product term is gender. The following are the two equations formed that derived from the regression procedure by entering independent variables and product term block by block in order to create two models.

Table 3 shows that for model 1, R = .640, R^2 = .409, adjusted R^2 = 404 and {F (2,244) = 48.98 P < .05}. This R^2 means that 40.9% of the variance in MH increase is explained by SI and EI. Model 1 does not include the product term and, thus, ignores a possible moderating effect of gender. To find out whether the potential moderating effect of gender on the SI and EI with MH relationship, we need to interpret the model 2 in table 3.

Model 2 incorporates the product term into the prediction equation. As shown in table 3, the addition of the product term resulted in an R^2 change of .009, F change (1,243) = 3.636, 'Sig. F' change = .058 with a P <.05. This result does not support presence of a moderating effect. In other words, the moderating effect of gender explains .9% of variance in MH above and beyond the variance explained by SI and EI. The result suggests that the gender is not important moderating the relationships of SI and EI with MH.

4. Discussion

The results in this study found EI was significantly and negatively correlated with MH scores. This finding is in line with (Bar-On, 2002; Palmer et al, 2002; Ioannis & Ioannis, 2005), Also between SI and MH scores, the finding of this study provides evidence to the claims of the previous researchers (Hay & Morisy, 1990; Emmonce 2000; Nobel, 2000; Zohar & Marshall 2000; West, 2004). The results of the Multiple Regression Analyses (MRA) revealed the overall score of the SI and EI are statistically significant predictors of MH in the study. EI was found to be the strongest predictor followed by SI for MH scores. So, the findings of this study supported a positive effect of SI and EI on students' MH. The overall regression model was successful in explaining approximately 40.9% of the proportion variance explained in MH scores. This study also supports that gender is not significant moderate for the relationship between SI and EI with MH.

5. Conclusion

The main purpose of the present study is conducted to explain the role of SI and EI on MH (somatic symptom, anxiety, social dysfunction and depression) of high school students. The present investigation also was to test the moderating effects of gender on the relationship of SI and EI with MH. In this research, we found that student's MH can be predicted by SI and EI. In other words, The R-squared of .409 implies that the two predictor variables (SI & EI) explain about 40.9% of the variance in the MH (dependent variable). Also, this study does not support the presence of a moderating effect of gender on link of SI and EI with MH. In other words, the moderating effect of gender explains .09% of variance in MH above and beyond the variance explained by SI and EI. The result suggests that the gender is not important moderating factors on relationship between SI and EI with MH. These findings suggest that SI and EI are important and should be encouraged in school and students MH life. By combining the concept of SI and EI in the analyses of multiple regression and moderated regression, a new understanding emerged in this area of psychology. Therefore, this information will be valuable to community counsellors, teachers, school counsellors, and parents, all of whom are concerned with SI and EI development and MH of the high school students, especially those of Iranian population.

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Table I: Descriptive Statistics of the Independent & Dependent Variables

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Spiritual Intelligence (SI)	247	3.02	4.87	3.9340	.35637
Emotional Intelligence (EI)	247	2.15	3.67	2.9028	.29031
Total Mental Health (MH)	247	.04	2.04	.9110	.42770

Table II: Result of Multiple Regression Analysis

Variables	Summary of Regression	Un-std Coefficient B	Un-std Coefficient Std. Error	Std. Coefficient Beta	t	Sig. Value
(constant)		4.063	.248			
Spiritual intelligence		-.352	.076	-.293	- 4.638	.000
Emotional intelligence		-.609	.093	-.413	- 6.533	.000
Multiple R	.640					
R Square	.409					
Adjusted R Square	.404					
F-Statistics	84.504					

Note. Predictor: SI & EI. Dependent Variable: Total Mental Health, * p < .05.

Table III: Result of MMR Analysis for the Moderated Effect of Gender on the Relationship between SI & EI with MH

Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.640a	.409	.404	.33009	.409	84.504	2	244	.000
2	.646b	.418	.411	.32832	.009	3.636	1	243	.058

Note. Predictors step 1: SI & EI; step 2: SI & EI, Students Gender, * p < .05.

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