The Relationship between Spiritual Intelligence, Life Expectancy, and Self-Regulation among High School Students

Najaf Tahmasbipour,1* Sadegh Nasri,2 Zahra Rafieeyazd3

ABSTRACT

This study investigated the relationship between spiritual intelligence, life expectancy, and self-regulation among students. This is a descriptive and correlational research. Research population included all female high school students in Tehran province. Using Cochran formula, 384 students were selected as samples through multi-step cluster random sampling. Evaluation instruments included King Spiritual Intelligence Questionnaire (2008), Hope Scale Snyder (1991), and Bouffard self-regulation questionnaire (1995). Collected data were analyzed through descriptive and inferential statistics (multivariate regression and canonical correlation). Results showed that there is a positive relationship between spiritual intelligence, life expectancy, and self-regulation. Canonical analysis also showed that spiritual intelligence explained 26% and 2.5% variance in life expectancy and self-regulation, respectively. Regression analysis of spiritual intelligence components showed that transcendental consciousness, personal meaning production, and expanded state of consciousness altogether explained 17.4% variance in life expectancy. Similarly, 18% variance in self-regulation was explained by personal meaning production and expanded state of consciousness. Due to the important role of spiritual intelligence in life expectancy and self-regulation, it is suggested that spiritual intelligence training for students be taken into curriculum.

Keywords: Spiritual Intelligence, Life expectancy, Self-regulation


INTRODUCTION

Students, their academic and psychological status have always been a concern for researchers in every society. Studies have shown that educational status and student achievement in school are affected by psychological variables such as self-regulation and life expectancy. Self-regulation means learning to rely on oneself rather than teachers, parents, and other educational agents to acquire knowledge and skills. Self-regulated learners also start and conduct learning processes cognitively, motivationally and behaviorally.

Self-regulation, as proposed in social cognitive theory, is the result of interaction between the three processes of self-observation (self-monitoring), self-evaluation (performance evaluation) and self-reaction (response to the consequences of a performance). Bouffard et al. (1998) showed that self-regulation is a complex cognitive, metacognitive and motivational factor that constantly affects performance outcomes and students achievement. Broadbent and Poon (2015), in their study, have shown that self-regulation plays an important role to be successful in the academic area. However, hope is also an effective variable on the educational status of students in school.

Hope is define as a process that allows people to desired goals and follow them. Hope is a capability of creating optimal pathways in order to achieve goals and being stimulated to use those pathways. Snyder first raised discussions on hope, and he extended interventions based on hope. Snyder, Ritschel, Ravid, and Berg (2006) defined hope as a mental set based on mutual sense of determination and planning to reach the goal. In his view, success in challenging works, especially in the academic area often requires the planning ability to meet goals. Hope predicts the physical and mental health and affects academic achievement.

Self-regulation and hope are important in improving student’s performance, and mental health as well as to achieve psychological well-being. It necessary to identify factors that can improve self-regulation and motivate students to hope. Humans are multi-dimensional and transcendental beings. They are not just psycho-physical and social-cultural beings, they are also religious-spiritual and moral beings. Many studies have shown that materialism, pursuit of worldly affairs and wealth, does not lead to happiness and self-actualization. Instead, it increases dissatisfaction, depression, anxiety, anger,
isolation and alienation among people. A few years after the introduction of intellectual intelligence and then emotional intelligence, in the late twentieth century, some evidence showed that there is another type of intelligence that can give a complete picture of human intelligence that was called spiritual intelligence.

King (2008) believes that spiritual intelligence creates a unique person ability to understand the meaning of life and reach a higher spiritual state. He presents a four-factor model of spiritual intelligence. The components of this model are: (1) critical existential thinking, (2) personal meaning production, (3) transcendental consciousness, (4) consciousness state expansion.

Spiritual intelligence contains capability in problem-solving behavior that helps the person to adapt to the surrounding phenomena and achieve intrinsic and extrinsic integration. This behavior includes the highest level of growth in different domains of cognitive, moral and emotional. Bashir and Bashir (2016), in a study to examine the relationship between self-regulation and spiritual intelligence among (second grade) high school students, showed that there is a significant and positive relationship between self-regulation and spiritual intelligence.

Mousavi Moghaddam and his colleagues (1394), in a study that examines the relationship between spiritual intelligence, self-control and self-defense mechanisms in female students of the third grade of high school, have found a significant positive relationship between spiritual intelligence and self-control. Afkari and Sajadizadeh (1393) examined the relationship between spiritual intelligence and life expectancy and showed that the spiritual intelligence could predict life expectancy.

Since spiritual intelligence is different from other intelligence, it is needed to study the role of this intelligence in the educational context. As it seems that spiritual intelligence is related to self-regulation and hope, curriculum planner should provide spiritual intelligence as a part of the curriculum. Education should not only emphasize personal development of students in academic achievement, it also should pay attention to variables that lead to the holistic development of students in the educational, social and personality domains. Spiritual intelligence as a holistic intelligence should be learned more and receive more attention.

Previous research emphasized the role of spiritual intelligence in life expectancy and self-regulation. Researchers have just recently begun to study spiritual intelligence, but the roles of spiritual intelligence in life expectancy and self-regulation have not properly discussed. Therefore, studying this issues is very important for schools, because religious beliefs can be used as a guidance to increase students achievement through promotion of spiritual intelligence. This study will determine whether spiritual intelligence has any relationship with self-regulation and life expectancy among students.

METHODS

This study is a descriptive, correlational and applied research. The study population consists of all female students of second grades of high school in Tehran. The number of female students in Tehran, data from the education department, is about 165421 people. Calculated sample size according to population size and by using Cochran formula was about 384 students. In the end, 400 people were selected through multi-stage cluster random sampling. After receiving the letter of introduction from the university and by getting the necessary permissions from the Ministry of Education in Tehran, a list was made to include all secondary schools. Two schools were randomly selected from each area. Students from 3 class grades (Second-grade, Third-grade, and Pre-University) were then chosen randomly in each school.

Instruments

Spiritual Intelligence Self-Report Inventory (SISRI): King’s Spiritual Intelligence Questionnaire (SISRI) has 24 items and measures different dimensions of spiritual intelligence (critical existential thinking, personal meaning production, consciousness state expansion, and transcendental consciousness). The scoring method is based on Likert scale with five options, from completely false (0) to completely true (4). However, this scoring method is reversed for question number 6. According to the analysis carried out by King (2008), the reliability of the test and the four factors including critical existential thinking, personal meaning production, transcendental consciousness, and consciousness state expansion have been reported to be 0.98, 0.88, 0.87, 0.89, and 0.94, respectively, based on Cronbach’s Alpha test. The face validity and content validity was confirmed by psychologists. Ghabari Bonab’s spiritual intelligence questionnaire was used at the same time to estimate the convergent validity. The correlation coefficient between the two questionnaires was measured to be 0.66. First-order exploratory and confirmatory factor analysis was used to measure construct validity. The result of the study showed that the inventory is a reliable and valid instrumental to measure spiritual intelligence, proper to use in educational and research environments such as universities. Zarei Matin et al. (1390)
measured Cronbach’s Alpha value equal to 0.94. In this study, the reliability of the questionnaire was measured to be 0.66 by using Cronbach’s Alpha coefficient.

Snyder Hope Scale: A self-report questionnaire, Snyder et al. (1991) designed this questionnaire with 12 items to measure hope. 4 items evaluate agency thinking (2, 3, 7, 8), four items evaluate strategic thinking (4, 9, 11, 12), and the remaining 4 items are filler. The responses range from 1 (definitely false) to 4 (definitely true), higher scores indicating greater hope. The total score is the sum of the scores for every single question. The correlation of this questionnaire with the Beck hopelessness questionnaire is -0.51 and with depression questionnaire is -0.42. In the study of Snyder and colleagues (1991), the reliability coefficient by using Cronbach’s Alpha was measured to be 0.70, and after a month, it was estimated to be 0.74. In the present study, the reliability of the questionnaire was measured to be 0.74 by using Cronbach’s Alpha coefficient.

Bouffard Self-Regulation Questionnaire: Bouffard and colleagues (1995) designed this questionnaire based on the cognitive Bandovar theory and it was normalized by Kadivar (1380). In learning the self-regulation, students have skills to design, control, and direct their learning and can assess the entire learning process. Bouffard self-regulation questionnaire has 14 items: this test measures cognitive and metacognitive dimensions. A higher score in each component indicates that the person is willing to use it. In this test, the responses are based on Likert scale with five items: completely agree, agree, no idea, disagree, and completely disagree and are rated from 1 to 5. The total score of each person can be 14-70. The agency analysis finding that used to determine its validity has shown that this instrument is able to explain 52% of the variance in self-regulation. Kadivar (1380) has reported the coefficient reliability of the questionnaire as 71% based on Cronbach’s Alpha. The reliability of the cognitive strategy subscale and metacognitive strategy subscale is equal to 70% and 68%, respectively. In this study, the reliability of the questionnaire based on Cronbach’s Alpha was measured to be approximately 65%.

RESULTS

As seen from Table 1, the mean score of hope is 47.16, the mean score of self-regulation is 46.19 and the mean score of spiritual intelligence is 48.30.

Focus correlation coefficient was used to investigate the relationship between spiritual intelligence and self-regulation and life expectancy among students. As seen from Table 2, a significant amount of Lambda Wilkes (F=13.81; P<0.001) shows that there is a significant relationship between dependent and independent variables (spiritual intelligence components with life expectancy and self-regulation).

The number of functions or dimensions that is achieved by focus correlation analysis is equal to the number of variables in the smallest category (predictive or criterion). Two functions or dimensions were obtained, as in this study, the criterion variables (life expectancy and self-regulation) contain two variables. The information is summarized in Table 3. The square of the correlation coefficient of functions (R²) is equal to 0.264 and 0.025, respectively. Thus, the results of focus correlation based on the table showed that the amount of focus correlation (life expectancy and self-regulation) is statistically significant in two focuses. In other words, the predictive variable (spiritual intelligence components) explains the variance of life expectancy.
expectancy and self-regulation variables, 26% in the first focus and 2.5% in the second focus.

In addition to the above method, functions significance test through dimension reduction analysis allows the researcher to test their significance by hierarchical arrangement of functions. Table 4 shows the results of dimension reduction analysis of bi-modal functions. The first row shows the results of significance test for the cumulative effect of functions 1 and 2. The test identify the combination of the two functions is significant or not. As it was stated, the cumulative effect of both functions is significant. Functions 1 and 2 (or the complete model) is significant ($F=13.81; P<0.001$) and the effect of function 2 is also significant ($F=2.65; P<0.049$). In other words, both functions explain the significance level of common variance between predictive variables (spiritual intelligence) and criterion variable (life expectancy and self-regulation).

The relationship between spiritual intelligence components and life expectancy is presented in Table 5. Critical existential thinking, personal meaning production, transcendental consciousness, and consciousness state expansion are significantly and positively related to life expectancy ($p<0.05$).

The relationship between spiritual intelligence components and self-regulation is presented in Table 6. Personal meaning production, transcendental consciousness and consciousness state expansion are significantly and positively related to self-regulation ($p<0.05$). There is no significant relationship between critical existential thinking and self-regulation ($p>0.05$).
DISCUSSION AND CONCLUSION

The results showed that the spiritual intelligence components explained 26% variance of life expectancy and self-regulation in the first focus and 2.5% in the second focus. It means that life expectancy and self-regulation will increase as spiritual intelligence increases in students. These findings are similar to the results of the studies by Mousavi Moghadam et al. (1394), Rahimipour and Karami (1393), Nafari (1393), Afsari and Sajadizadeh (1393), Mirzavand (1392), Ashourii et al. (1392), Raessi et al. (1392), Baghban Moghadam (1391), Raessi (1391), Mishra and Vashist (2014) and George and Visvam (2013).12,14,15,20-26

Mirzavand (1392) found that spiritual intelligence group training and conscious mind can improve psychological well-being and life expectancy of patients with HIV.22 Raessi (1391) showed that there is a significant relationship between spiritual intelligence and hope.12

Evidence suggests that spiritual intelligence increases awareness and insight concerning multiple levels of consciousness and has a positive impact on individual performance.23 Similarly, people with a sense of spiritual intelligence have feelings such as being controlled by the Almighty. That is a sense of relief from sadness, sense of harmony with the world, understand the truths, notice that world was constantly changing, and finally, feeling of joy and happiness as deep senses.24 It can be concluded that students with higher spiritual intelligence experience more optimism in life and become more patient to resolve difficult problems and stresses as well as problems related to academic affairs.

Spirituality gives meaning to life, and human can choose rational behaviors through it.25 Moreover, people who feel the meaning of their life and have good interaction with others, have an adaptive attitude. Facing traumatic problems, people will remain calm and overcome the situation with responsibility and freedom rather than become stressful. They will always happy because they can find the way to change the critical events and lead to great conditions. Thus, looking for meaning of life is the main spiritual intelligence components that can result in hope in students.

However, King (2008) believed that problem-solving methods through spirituality is applications of spiritual intelligence. These features are a mediator of spirituality effects and combination of spirituality and intelligence.11 Vaughan (2003) also believed that spiritual intelligence enlightens the mind and connects soul with the underlying substrate. People with a spiritual living mindset, are psychologically healthy. According to Amram (2009), spiritual intelligence was an ability that causes self-awareness, self-control, an understanding the meaning of the life, purposefulness, ability to communicate effectively with others, and strong mental health.30 It can be observed that the student with higher levels of spiritual intelligence is probably more aware of his mental process and can improve his/her self-regulation by modification of mental processes and evaluation of the mental strategies in academic problems.

The results showed that there were positive and significant relationships between critical existential thinking, personal meaning production, transcendental consciousness, consciousness state expansion, and life expectancy. It means that life expectancy will increase as spiritual intelligence increases in dimensions of critical existential thinking, personal meaning production, transcendental consciousness, and consciousness state expansion. These results are consistent with the results of Rahimipour and Karami (1393), Nafari (1393), Afsari and Sajadizadeh (1393), Mirzavand (1392), Raessi (1391), and Mishra and Vashist (2014).12,13,20,21,22,25

Rahimipour and Karami (1393) showed that there are significant relationships between psychological welfare and spiritual intelligence, between spiritual intelligence and life satisfaction.20 Moreover, Nafari (1393) showed that there are positive and significant relationships between spiritual intelligence, happiness and life expectancy.31

As shown earlier, researchers had also emphasized that spiritual intelligence can include hope. King (2008) knew existential thinking (thinking about death, the life after death, and searching the cause of existence of the life and its purpose) as the main elements of spiritual intelligence. It can help the people to understand the origin and destination of human life and universe. Naturally, it is expected that this understanding leads people to choose higher goals and organize the general direction of their lives, and thus improves hope among them.11

King (2008) defined personal meaning production as a core component of spiritual intelligence. It can be said what that weaken a man is not desirable fate and suffering, but the lack of meaning in life.31 When a person finds the meaning of life in experiences and events, he can control the feelings of worry, and it gives hope and meaning to his life. It also strengthens his desire to live and deal with the problems and increases his sense of inner control about future and to get what he expects. Therefore, those who are more successful to find meaning in life through spiritual intelligence can be more hopeful and resistant to problems.
Other results showed that there were positive and significant relationships between critical existential thinking, personal meaning production, transcendental consciousness, consciousness state expansion, and agency thinking of life expectancy component. It means that agency thinking of life expectancy component will increase as the spiritual intelligence, personal meaning production, transcendental consciousness, and consciousness state expansion increase. These results are consistent with the results of Rahimipour and Karami (1393), Nafari (1393), Afkari and Sajadizadeh (1393), Mirzavand (1392), Raesii (1391), and Mishra and Vashist (2014) 12,15,20,21,22,25.

King (2008) expressed that higher awareness (the power of understanding and integrating dimension of his own, others and the world) is the main element of spiritual intelligence. If a person goes through his external events and identifies his spiritual aspects, he can realize his deep values and have better understanding of his abilities and weaknesses and thus, he will truly determine the direction of his life by choosing the right strategies in order to achieve the goals.11

The results also showed that there are positive and significant relationships between critical existential thinking, personal meaning production, transcendental consciousness, consciousness state expansion and strategic thinking component of life expectancy. It means that strategic thinking component of life expectancy will increase as the spiritual intelligence, critical existential thinking, personal meaning production, transcendental consciousness, consciousness state expansion increases. These results are consistent with the results of Rahimipour and Karami (1393), Nafari (1393), Afkari and Sajadizadeh (1393), Mirzavand (1392), Raesii (1391), and Mishra and Vashist (2014) 12,15,20,21,22,25.

Students may encounter academic and social stress that endanger their physical and mental health. In such circumstance, spirituality is helpful, as it can help them to pay attention to their spiritual experiences and solve the problems and understand the value and positive aspect of the crises. Spiritual intelligence enables them to solve the issues by a spiritual approach.

Other results showed that there are positive and significant relationships between personal meaning production, transcendental consciousness, consciousness state expansion and self-regulation. It means that self-regulation will increase as the spiritual intelligence increases in personal meaning production, transcendental consciousness, and consciousness state expansion. These results are consistent with the results of Mousavi Moghadam et al. (1394), Ashouri et al. (1392), Raesii et al. (1392), Baghban Moghadam (1391), and George and Visvam (2013).12,14,24,26 These results also showed that there was no significant relationships between critical existential thinking and self-regulation. Mousavi Moghadam and colleagues (1394) expressed that there is a positive significant relationship between spiritual intelligence and self-regulation.14

In explaining these findings, it can be concluded that spiritual intelligence combines spirituality and intelligence structure within a new structure. Spiritual intelligence uses multiple ways to recognize and understanding to connect mind and spirit with outer life. In fact, spiritual intelligence makes optimum use of cognitive intelligence and emotional intelligence. Zuher and Marshall believe that spiritual intelligence grows by seeking the original meaning of situations, brings up the ‘why’ question regarding the things. Furthermore, Nasel (2004) expressed that learning, recognizing and listening to the guiding intuitions or inner voice, thinking, raising awareness, learning from mistakes, and being honest increased spiritual intelligence. All of that can lead to higher self-regulation in students.28

Spirituality is known as a fundamental knowledge that can help to adapt to environment. Spiritual intelligence has at least five functions that can lead to adaptive behavior towards the environment: (1) transcending the tasks that is paying attention to the integrity of the universe, (2) experiencing a high level of self-awareness, (3) reviewing and refining the daily experiences in relation of a person to religious and spiritual feeling, (4) using spiritual resources in solving life's problems and (5) doing righteous things like: forgiveness, sacrifice, etc.11 A person with high spiritual intelligence has more flexibility, self-awareness, has the capacity for inspiration and intuition as well as holistic view of the universe. This self-consciousness can lead to better use of cognitive strategies for self-regulation.

Other results showed that there are positive and significant relationships between personal meaning production, transcendental consciousness, consciousness state expansion and metacognitive self-regulation component. It means that metacognitive self-regulation component will increase as the spiritual intelligence increases in personal meaning production, transcendental consciousness, and conscious mode expansion in students. These results are consistent with the results of Mousavi Moghadam et al. (1394), Ashouri et al. (1392), Raesii et al. (1392), Baghban Moghadam (1391), and George and Visvam (2013). These results also showed that there is no significant relationship between critical existential thinking and metacognitive self-regulation component.12,14,24,28

12,14,24,26,28
Researchers referred that spiritual beliefs increased the learning process and use of learned knowledge. People can adapt to a new situation by learning psychological skills. These abilities include memory, the speed of speech processing, the power of visualization, analysis of motivation and perseverance. Thus, based on the expressed results, it can be said that students who have higher spiritual intelligence are more flexible, have capability to inspire and think holistic, have a better ability to use their memory, have a higher speed for processing information, show higher self-regulation, and will get advantage from effective cognitive and metacognitive strategies of self-regulation.

In the end, according to the findings that showed positive and significant relationship between spiritual intelligence and self-regulation and hope, it can be concluded that spiritual intelligence can lead to a greater hope and self-regulation to help students in improving their adaptation with stress and life problems, having a holistic approach to the universe, seeking answers to fundamental questions of life, criticizing traditions and customs, as well as having a higher level of consciousness.

LIMITATIONS AND RECOMMENDATIONS

It is recommended that organized programs and instructions be designed to promote students’ spiritual intelligence and therefore, their development and growth. Also, it is suggested that the discussions of spiritual intelligence and the ways to enhance it have to be included in general courses in order to introduce this type of intelligence in students. In addition, consultants and psychologists at schools can apply spiritual approaches in clinical and consulting models in order to promote hope and self-regulation among students. On the other hand, the present study cannot ensure the stability of the results because of the cross-sectional design of the research.

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