

## The Relationship between Emotional Intelligence and Creativity of Female High School Students in Baft City

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### ABSTRACT

The current study aim is identifying of relation between EQ and creativity of girl high school students of Baft city in academic year 2008-2009. To achieve the objective of the research, among 417 students, 214 of them were selected as sample group according to Morgan table stratified random method. The instruments used in this research are including Bar On emotional intelligence inventory and creativity inventory of Jamal Abedi. The research method is survey and Pearson's correlation component is used for data analysis. The results of the research show that considering significance level ( $P \leq 0/01$ ) and the obtained Pearson coefficient  $R= 0.562$ , there is significant and positive relation between EQ and creativity of students. Thus, it is concluded that there is positive and significant relation between 15 components of EQ and creativity of students.

**KEYWORDS:** EQ; creativity.

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### INTRODUCTION

Education, growth and development of creativity can be sub structure of planning development of education. Because development is done via investment in education and the first priority in developed countries is human development and the basis of human development is learning based on student's creativity.

By reflecting in educational system of our country, we can find that we are far from the growth and development of creativity in children and adolescents, thus consideration and research in different elements of education and their role in developing creativity of students are of great importance.

School as one of the important components of education system can affects thought and mental skills and learning methods of students considerably and presents good solution for problems. Thus, school can be the center of learning and developing creative thoughts. Recently, researchers and physiologists considered more social, emotional and environment dimension of creativity and believe that emotional field is as important as cognitive field in creating creativity. One of the issues that took the attention of some psychologists such as Mayer & Goleman is that to attain success, only having intelligence quotient, their studies showed that most of intelligent people are not successful in their life but they are good experts in scientific field and they lack any kind of creativity and success in their personal and social life.

It was defined that the answer to the question of this success or failure are found the in the works of some theorists such as Mayer, Salovey and Carso and Goleman in EQ and its components. The studies show the role and importance of EQ in different aspects of people life including education, job, social environment and productivity and mental health. But our education system emphasize still on intelligence quotient and its effect on different aspects of life, education and success. Thus, the investigation of EQ shows that this phenomenon is very effective in individual and collective life and indicates achievement and success grounds. Thus, the researcher considers the doing research to answer this question that whether EQ predicts creativity of high school students and the main problem of the research is identification of the relation between EQ and creativity of students.

The main purpose of this research is identifying the relation between EQ and creativity of third high school students. Specific objectives of research set as followings:

1. Identifying the relation between emotional self-awareness of students and their creativity.
2. Identifying the relation between assertiveness of students and their creativity.
3. Identifying the relation between self-esteem of students and their creativity.
4. Identifying the relation between self-actualization of students and their creativity.
5. Identifying the relation between independence of students and their creativity.
6. Identifying the relation between interpersonal relations of students and their creativity.

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7. Identifying the relation between responsibility of students and their creativity.
8. Identifying the relation between problem solving ability of students and their creativity.

### **The importance and necessity of research**

To progress and the movement toward the better future and solving the existing problems of the society, human society should move in creativity and innovation road. Thus, achieving this goal should be more on the most influent group of the society, children and adolescents in comparison with all age groups and the more information resources in their environment, this motivation is actualized via new mechanisms such as query, motivating curiosity and research develop growth and creativity and curiosity is the love to discover, know and innovation and the love to gain new information and the love to be successful are the origin of creative and innovative behaviors (Shariatmadari, 1988:417).

During the past couples, considerable attempt is made to determine and discover the effective factors on success. The researchers in determining the importance of personality factors in success, achieve considerable results to predict success and showed that if we add these personality sizes to predict success as IQ, success prediction is possible significantly with more probability rather than using only the scores of IQ abilities (Kattle & Becher, cited in Akbarzadeh, 2004).

By development of the concept of EQ, different issues and variables are attributed to it. Sternberg (1998) believed that academic achievement and intelligence are not measured only by academic scores, and we should consider people skills and attitudes. Sternberg researchers on intelligence resulted into a new theory called "successful intelligence" and he believes that (1998) successful intelligent is required to achieve success in life and this theory is substantially broader than conventional theories of intelligence. It defines intelligence in terms of the ability to achieve one's goals in life. Conventional views of intelligence favor individuals

Who are strong in memory and analytical abilities, while to achieve success in life, practical and creativity abilities are important.

One of the definitions of EQ discusses about quantity model of EQ that forms EQ map: "EQ is the ability to understand the effective use of power, intelligence and emotion as a source of human energy, information, confidence, creativity and effectiveness (Aqayar Sharifi, 2007:25).

Despite considerable success that today people have achieved in different fields of scientific, technical and wellbeing, etc are faced with many failures in different aspects of life, persistence in habits, the lack of skill of using learning and experiences, illogical behaviors with situations, inefficiency in facing with special conditions, the lack of scientific method in the works are the failures that are equal to low creativity among the people of the society and great part of it is attributed to school performance, because schools as educational centers have the great mission to facilitate creativity and innovation path in human societies.

Our education system is mostly focused on reason skills with time series and the most creative capabilities are affected considerably and mostly not only teachers, but also the parents with good intention avoid actively of creativity and the students are prevented from expressing their valuable creativities and schools don't teach thinking and instead of encouraging and propagation of divergent thinking methods, propagate convergence. Students continuously oblige themselves to duties and obliged responsibilities and while the experience of creative researchers and innovative scientists in superior sciences and technologies show that such responsibilities don't let to actualize creative thoughts (Afrooz, 2001: 132).

Now considering the role of EQ in increasing motivation that finally causes effectiveness in schools and development of EQ by students and teachers is considered as key element in learning and teaching and the school is infrastructure of any development and change in the society and by developing and actualizing creativity talents and creative thought and problem solving in students, the society is guided toward actualization and development. Thus, it is school that by educating creative thinkers, skillful and specialized people in different periods such as elementary, guidance school and high school guarantee the progress and sustainability of the society.

Thus, despite the importance of EQ and creativity in success of students, researchers less considered this fact. Doing this research is of great importance of two points, first the researcher tries to inform the managers of school and high rank managers of Education organization of main role of EQ and creativity and the relation of these two variables. Second, it attempts to present some recommendations to reinforce EQ and creativity. In addition, in this research practical solutions are presented for Education Department teachers. On the other hand, in case of a relationship between EQ and creativity, correct planning to change and modify students education system is expected.

### **Research hypotheses**

#### **Main hypothesis**

There is a relationship between EQ and creativity of girl students.

### **Sub hypotheses**

1. There is a relationship between assertiveness of students and their creativity.
2. There is a relationship between self-esteem of students and their creativity.
3. There is a relationship between self-actualization of students and their creativity.
4. There is a relationship between problem solving ability of students and their creativity

## **METHODOLOGY**

By considering research purpose, identifying the relation between EQ and creativity of students of the current research is of correlation type, and its objective is finding a solution between these two variables that whether the studied variables are related to each other or not and if a relation is discovered, this relation is positive or negative?

### **Method of Data Analyze**

The collected data after extraction and coding are analyzed by SPSS software and by descriptive statistics indices (tables and charts of percentage, frequency, average scatter plot, etc.) and inference statistics of Pearson correlation test.

### **Statistical population**

Statistical population of the present study includes all girl students of third of state schools of Baft city in academic year 2008-2009 that are 471 people according to the statistics of Education office of town and they were studying in 7 state high schools.

### **Sample size**

The current research sample considering the nature and type of research plan of total 471 students of third of high school, 7 state high schools, 214 people are selected randomly based on Morgan table, finally, research questionnaires used for students and were investigated in final analysis.

### **Definitions of EQ**

The term EQ was first used in 1990 by a psychologist, Salovey to define the quality and knowing feeling of people, empathy with others feeling and ability for good management of mood. Indeed, this kind of intelligence includes knowing self and others feeling and using it to take good decisions in life. In other words, it is a factor motivating an individual in failure and by having high social skills, leads into having good relations with people (Salovey, 1990). Goleman in his famous book, emotional intelligence defines:

“the ability to manage emotional feelings so that they are expressed appropriately and knowing the most private feelings of others, calm behavior in main relations with others and the skill of being angry at reasonable level at appropriate time, with justified reason by appropriate method (Goleman, 1995).

Dr. Daniel Goleman says:” EQ means some abilities as a person can keep his motivation and tolerate against problems and control himself in critical conditions and impulses and keep cool, delay happiness, regulate his mental states and don't let his mind confusion affects his thinking power. Empathize with others and be hopeful and briefly, EQ is the set of attributes that are important in the destiny of people (Aqayar and Sharifi, 2007:13). Mayer and Salovey (1990) considers EQ including understanding emotion and being informed of emotions, ability to achieve and creating emotions, facilitating cognitive tasks and adaptable task and ability to regulate emotions in a person and others. In other words, EQ is appropriate information processing with emotional aspects and using it to guide cognitive activities such as problem solving and concentration of energy on behaviors. Thus, EQ seems optimistic term in comparison with conventional concepts of intelligence (Akbarzadeh, 2004: 19).

Herestain and Muray (1994, cited in Goleman 1995) believe that people are distributed in a curve in terms of EQ attribute and difference of people is constant in this regard and it is interpreted hardly. However, Goleman (1995) distinguished EQ of general intelligence and explained that EQ is stronger than general intelligence and emotional capability can be learned. Bar On (1997) believe that indeed, emotional phenomena provide unique phenomena of information for people about surrounding environment and its search and this information forms reciprocal deeds and feeling. In addition, the assumption is that people have different skills in understanding and using the emotional information and EQ level of a personal affects his health, wisdom, and emotional growth.

### **Constituent factors of EQ**

Bar-On (1997) considers EQ as understanding self and others, having good relations with others and adaptability with environment for effective behavior with environmental requirements.

For EQ, 5 meta factors and 15 sub factors are introduced including:

1. Intrapersonal intelligence: emotional self-awareness, decisiveness, self-regard , self actualization and independence.
2. Interpersonal intelligence :Empathy, interpersonal relations and social responsibility)
3. Adaptability :Problem solving, reality assessment and flexibility.
4. Stress Management : Managing stress and impulse
5. General Mood : Happiness and optimism.

### **EQ components**

1. Intrapersonal components indicating an individual ability in emotional awareness and controlling them including:
  - a. Emotional self-awareness (ES): being aware of and understanding our emotions
  - b. Assertiveness (As): The ability to constructively express our feelings and ourselves in general
  - c. Self- regard (SR): The ability to accurately perceive, understand and accept ourselves and self-esteem.
  - d. Self-actualization(SA): The ability to understand potential talents and doing what we can do, attempting to do and enjoy
  - e. Independence(In): The ability to be self-directed in our thinking and actions and to be free of emotional dependency
2. Interpersonal components that are the ability of an individual to adapt with others and doing social skills including:
  - a. Empathy (EM): The ability to be aware of and understand how others feel and giving value to it.
  - b. Social responsibility (RE): The ability to demonstrate ourselves as cooperative, contributing and constructive members of our social group.
  - c. Interpersonal relationship: The ability to establish and maintain mutually satisfying relationships that emotional closeness and kind transaction and friendship are its characteristics.
3. Adaptability components including:
  - a. Reality testing (Rt):The ability to assess the correspondence between what is experienced and what objectively exists
  - b. Flexibility (FL): The ability to adapt and adjust our feelings, thinking and behavior to different situations.
  - c. Problem solving(PS): The ability to identify and define problems as well as to generate and implement potentially effective solutions.
4. Stress tolerance component including:
  - a. Stress tolerance (St): The ability to withstand and deal with adverse events and stressful situations.
  - b. Impulse control(iC): The ability to resist or delay an impulse, drive or temptation to act.
5. General mood components including:
  - a. Optimism(OP): the ability to maintain a positive and hopeful attitude toward life even in the face of adversity
  - b. Happiness (HA): the ability to feel content with ourselves, others and life and positive self-expression (cited in Davoodi, 2007: 51-54).

### **Emotional intelligence aspects**

Including:

1. **Emotional competency:** consisting of response capacity or appropriate response to emotional stimuli in different conditions, having high optimism and self-confidence feeling, controlling adverse emotions such as failures, conflicts and complexes, enjoyable emotions, ability to establish relations with others, emotional self-control, the capacity to avoid emotions such as: mental pressure, helplessness, avoiding negative emotions, managing false pride and doing what leads into situation.
2. **Emotional maturity:** It is consisting of evaluating our emotions and others', identification and expressing feelings, balance between wisdom and heart or reason and emotion, flexibility and adaptability, accepting and admiring others beliefs, delaying mental satisfactions or it avoids reactions indicating rapid mental satisfactions.
3. **Emotional sensitivity:** It is consisting of identifying of creating emotional arousal threshold and direct environment management, understanding with others, comforting others that defines emotional close relations and feeling (Aqayar and Sharifi, 2007:40-41).

Thus EQ is consisted of three psychological dimensions of emotional competence, emotional maturity and emotional sensitivity that cause we have real identification, honest interpretation, thoughtful control and dynamic human behaviors.

### **Emotional intelligence competencies**

Dr. Baron says: "EQ is arrangement of personal abilities, emotional and social emotion and skills that affect the ability of human being to be successful to overcome environmental pressures and directly affects general psychological comfort of human being. He says we have two types of intelligence.

EQ and wisdom are related to the activity of a part of brain, upper layer of brain (Neocortex) is consisted of complex tissues constituent of thinking brain of that part. The center of emotions is located in lower layers of brain layer or cortex. EQ is not a single ability separated from other abilities (Aqayar, Sharifi, 2007: 65).

Daniel Goleman model of EQ includes personal and social capabilities. Personal capabilities teach us how to manage ourselves while social capabilities help us in controlling relations with others (Aqayar, Sharifi, 2007: 66).

### **The difference between IQ and EQ**

EQ theorists by biological and psychological reasons distinguished EQ from IQ. At first, it is worth to mention that IQ and EQ are measurements of ability, not the ability itself. EQ theorists believe that IQ tells us what we can do while EQ tell us what we should do, IQ is including our capabilities to recall, abstract and logical thought, while EQ tells us how we use IQ to be successful in life (Akbarzadeh, 2004: 20-21).

All of us have a combination of EQ. indeed, there is low correlation between general intelligence and some aspects of EQ and it should be said that these two fields are independent (Bar- On, 1997).

Another question here is that whether EQ is opposite to IQ? EQ is not opposite to IQ and brain doesn't dominate the heart in it. In EQ brain and heart or intelligence and emotion are combined as uniquely. Briefly, EQ is including using emotions to solve problem and having a useful, creative and constructive life (Siarochi et al, 2004: 4-5).

Mayer and Salovey (1990) consider EQ representative of ability to distinguish, evaluate and expressing emotion appropriately and adaptable. In addition, EQ include understating emotion and being informed of emotions, the ability to achieve and create emotions, facilitating cognitive tasks and adaptable task and ability to regulate emotions in self and others.

However, Goleman (1995) distinguished EQ from general intelligence and explained that EQ is stronger than general intelligence and important emotional competences can be learned.

Bar- on (1997) believe that indeed, emotional phenomena provide unique resource of information for people about surrounding environment and its search and this information forms mutual deeds and feeling. Also, the assumption is that people have different skills in understanding and using the emotional information and EQ level of a personal affects his health and wisdom and emotional growth.

### **Creativity**

Creativity as a psychological issue and social phenomenon is raised of different philosophical and scientific view with different view. Generally, the presented definitions about creativity are classified in 6 groups.

The first group is the view of Stenberg (2000). He believes that creativity is combination of innovation, flexibility and sensitivity against some comments that make an individual able to think about productive results that lead into personal satisfaction and others satisfaction.

Second group: creativity is a reasoned thinking process requiring many cognitive attempts and potential outcome of this process is creative behavior (Shelly, 1991).

Third group: They are definitions prioritizing people personality characteristics. Here Rabins view (1991, cited in Qolampour, 2000:15) is mentioned. Rabins believes that creativity is the ability to combine thoughts and comments in a unique method by creating relation between them.

Forth group: They know creativity as an inclination or motivation. Here Amabil (1983) proposes that creativity is the result of an individual intrinsic motivation, knowledge and capabilities of the field and skills of the issue.

Fifth group: They are definitions considering psychometric aspects of creativity. Here Guilford (1950) view is considered. He believed that creativity is divergent thinking in solving problems that is measured by the tests built in this regard.

Sixth group: are definitions that besides personal aspect considered social aspect of creativity and at the end of 1970, most of psychologists believed that we cannot consider creativity without social backgrounds. In fact, in 1980, an obvious social-psychological view of creativity was created and it was replaced by cognitive, differentiable and change views (Amabil, 1983). One of the theorists of this group is Harrington (1996) view. He believed that creativity is not the product of a single person at a single time and in special place but it is ecology and in ecology, live creatures are interacting with each other and their environment. In creative ecology, both members and environmental aspects are interacting with each other (Agahi Isfahan, 2002: 39-41).

**Practical background of EQ research**

Synecyics creativity development method to reinforce creative thought use emotional capacities.

Researchers of this method to investigate emotional and mental states tha are in creative thinking current, studied mental and emotional states of successful people during creativity occurrence in discovering a phenomenon or achieving an invention and they could identify these emotional and psychological states and performances that lead into emotional and mental states (Davari, 2007: 51-54).

Isen (1999), emotional intelligence make a person able to keep positive environment and increase it and this can be effective indirectly in increasing creating thinking.

Chan (2005) showed that EQ has direct influence on perception of intelligent students of their creativity.

Parker et al (2006) in a research showed that people with high EQ were successful in transition from high school to university. They determined the results as people with high EQ by regulating their emotion emphasized more on the goal and they achieved more success.

Amabil (1985) believes that both EQ and creativity can be related to creative behavior.

Sternberg (1998) believed that academic achievement and intelligence can not be measured only by academic scores and we should consider skills and attitudes of people. Sternberg research regarding intelligence led into a new theory called “successful intelligence”, he believed (1989) that successful intelligence is a kind of intelligence required to achieve life success and it is more extended than what is measured by conventional tests of intelligence, while to achieve success in life, practical and creative abilities are important.

In a research performed by Mayer & Brakett (2007: 200-235) titled the relation of EQ with emotional creativity on 107 students, of which 34 were men and 68 women and gender of 5 persons was not reported and they were between 17 to 49 years. The research was done in New Hampshire University and Wiel University in Durham city and found the followings.

**Hypotheses analysis**

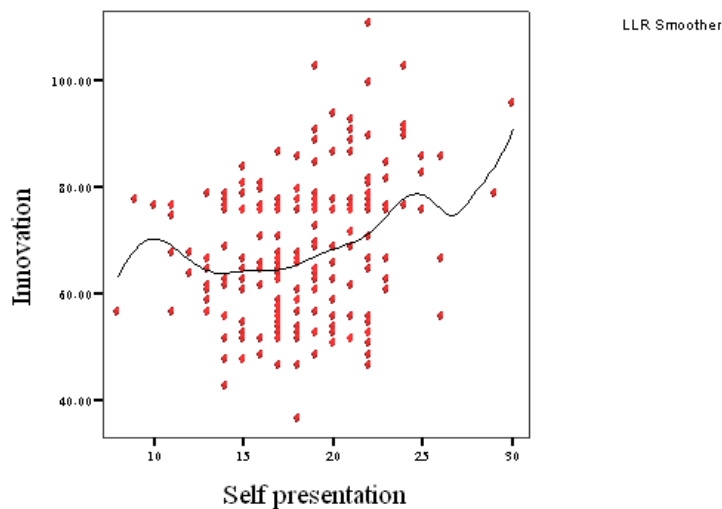
**Table 1- The relation between assertiveness and creativity**

|                      |                     | <b>Creativity</b> | <b>Assertiveness</b> |
|----------------------|---------------------|-------------------|----------------------|
| <b>Creativity</b>    | Pearson Correlation | 1.000             | .257(**)             |
|                      | Sig. (2-tailed)     | .                 | .000                 |
|                      | N                   | 214               | 214                  |
| <b>Assertiveness</b> | Pearson Correlation | .257(**)          | 1.000                |
|                      | Sig. (2-tailed)     | .000              | .                    |
|                      | N                   | 214               | 214                  |

H0: There is no relationship between assertiveness and creativity

H1: There is a relationship between assertiveness and creativity.

The calculated correlation between assertiveness and creativity at 0.01 level is significant based on sig0.00. Thus, H0 is rejected and H1 is supported.



**Chart 1- scatter plot of assertiveness and creativity**

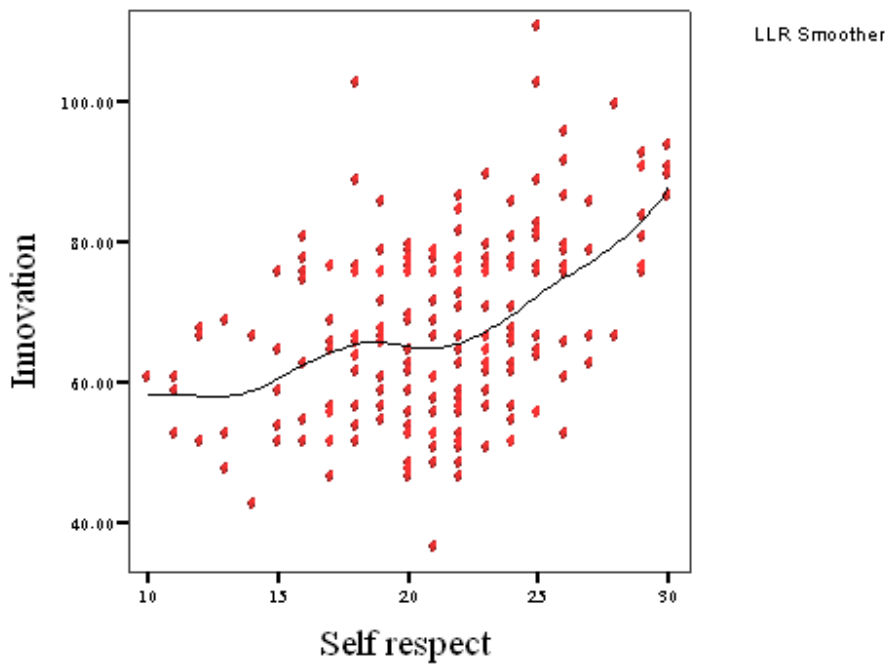
**Table 2- The relation between self-esteem and creativity**

|                    |                     | <b>Creativity</b> | <b>Self-esteem</b> |
|--------------------|---------------------|-------------------|--------------------|
| <b>Creativity</b>  | Pearson Correlation | 1.000             | .404(**)           |
|                    | Sig. (2-tailed)     | .                 | .000               |
|                    | N                   | 214               | 214                |
| <b>Self-esteem</b> | Pearson Correlation | .404(**)          | 1.000              |
|                    | Sig. (2-tailed)     | .000              | .                  |
|                    | N                   | 214               | 214                |

H0: There is no relationship between self-esteem and creativity

H1: There is a relationship between self-esteem and creativity

The calculated correlation between self-esteem and creativity is significant at 0.01 level based on sig0.00. Thus, H0 is rejected and H1 is supported.



**Chart 2- scatter plot of self-esteem and creativity**

**Table 3- The relation between self-actualization and creativity**

|                           |                     | <b>Creativity</b> | <b>self-actualization</b> |
|---------------------------|---------------------|-------------------|---------------------------|
| <b>Creativity</b>         | Pearson Correlation | 1.000             | .394(**)                  |
|                           | Sig. (2-tailed)     | .                 | .000                      |
|                           | N                   | 214               | 214                       |
| <b>self-actualization</b> | Pearson Correlation | .394(**)          | 1.000                     |
|                           | Sig. (2-tailed)     | .000              | .                         |
|                           | N                   | 214               | 214                       |

H0: There is no relationship between self-actualization and creativity

H1: There is a relationship between self-actualization and creativity

The calculated correlation between self-actualization and creativity is significant at 0.01 level based on sig0.00. Thus, H0 is rejected and H1 is supported.

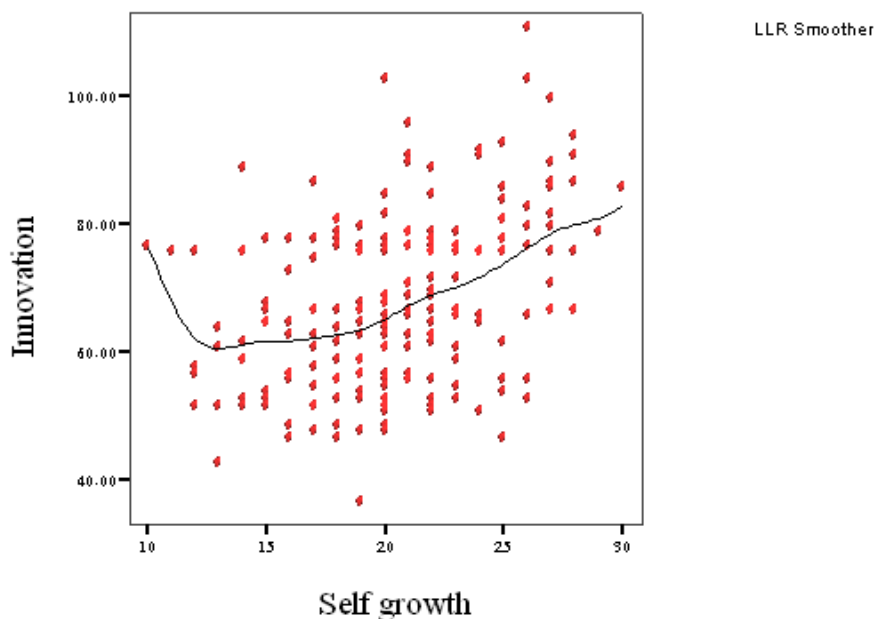


Chart 3- scatter plot of self-actualization and creativity

Table 4- The relation between problem solving and creativity

|                 |                     | creativity | problem solving |
|-----------------|---------------------|------------|-----------------|
| creativity      | Pearson Correlation | 1.000      | .239(**)        |
|                 | Sig. (2-tailed)     | .          | .000            |
|                 | N                   | 214        | 214             |
| problem solving | Pearson Correlation | .239(**)   | 1.000           |
|                 | Sig. (2-tailed)     | .000       | .               |
|                 | N                   | 214        | 214             |

H0: There is no relationship between problem solving and creativity

H1: There is a relationship between problem solving and creativity

The calculated correlation between problem solving and creativity is significant at 0.01 level based on sig0.00. Thus, H0 is rejected and H1 is supported.

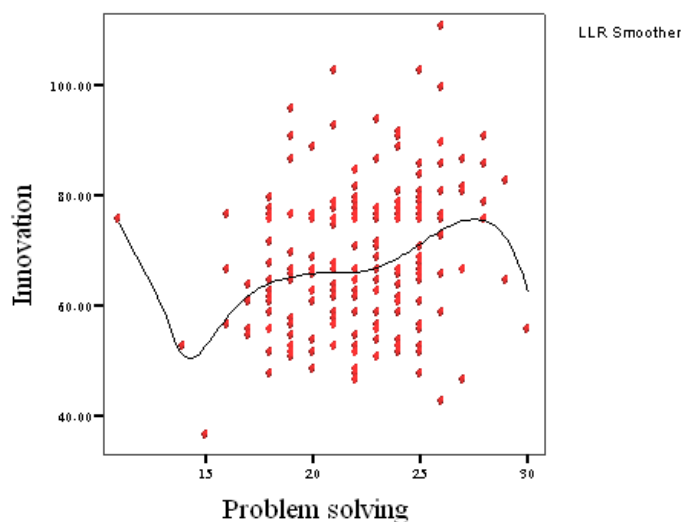


Chart 4- scatter plot of problem solving and creativity



## RESULTS

### 1. Is there a relationship between assertiveness and creativity of students?

According to the results of table (4-7) at significance level ( $P \leq 0/01$ ) and correlation coefficient ( $R=0.257$ ) indicates that there is relationship between assertiveness and creativity of students. In other words, the higher the ability of a person of expressing feelings, beliefs and obvious thoughts and defending constructive skills, the more is his innovations and this result is consistent with researches of Isen (1999), Davari (2005) and Nateqian (2007).

### 2. Is there any relationship between self-esteem and creativity of students?

According to the results of table (4-8) at significance level ( $P \leq 0/01$ ) and correlation coefficient ( $R=0.404$ ) indicates that there is relationship between self-esteem and creativity of students. It means that the people with higher EQ are more self-reliant with more self-regard and positive attitude and they are more inclined to face with problems and it can be inferred that they are more creative and this result is consistent with Mayer & Brakett (2007), Nateqian (2007), Isen (1999) and PourfarajOmran (2009).

### 3. Is there any relationship between self-actualization and creativity of students?

According to the results of table (4-9) at significance level ( $P \leq 0/01$ ) and correlation coefficient ( $R=0.394$ ) indicates that there is relationship between self-actualization and creativity of students. It means that the people with higher EQ self-sufficient people and rely on themselves to actualize their potential talents growth to perfection and attempt to actualize their abilities and this result is consistent with the results of Siarouchi et al (2004) and Nateqian (2007) and Mac (2005).

### 4. Is there any relationship between problem solving and creativity of students?

According to the results of table (4-14) at significance level ( $P \leq 0/01$ ) and correlation coefficient ( $R=0.239$ ) indicates that there is relationship between problem solving and creativity of students. The ability to use emotions or producing emotions to facilitate problem solving is important in an individual efficiency and using EQ causes that all details of a problem are investigated rapidly, it means that people with high EQ are more self-reliant and these people in problematic situations feel alone and to solve the existing problem make the most out of their personal and social benefits and they are more creative. This finding is consistent with findings of Zarean (2007) and Nateqian (2007).

## DISCUSSION AND CONCLUSION

The findings of the present study indicate that there is positive and significant correlation between EQ and creativity of student at ( $P \leq /01$ ), in other words, EQ has positive and direct influence in performance of student in creativity and innovation and EQ components can predict creativity amount in students. Emotional skills cause effective relations, better decision making and increasing efficiency and potential capability and coining solutions for complex problems. The higher the EQ of a person coordinates among his behaviors more in facing with different social problems and adaptability with surrounding environment and show logical behaviors. As creative people have high thought flexibility, in facing with problems are less encountered with record shortage. They welcome challenges with self-reliance in problems and show creativity and innovation.

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