## Emotional Intelligence and Students' Academic Achievement

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#### **Abstract:**

This study aims at investigating the relationship between emotional intelligence (EI) and the following variables: academic achievement, sex, and branch of specialization. Three hypotheses have been put to investigate such relationship. The sample of this research consists of (48) students (males& females) at the College of Basic Education/ Mosul University. Salovey et al.'s scale (1995) has been used to measure EI; and students' grades, taken from the Registration Unit at the College, have represented their academic achievement. The researcher has used Pearson Correlation Factor as a statistical tool; and the data has revealed that there is a significant statistical correlation between EI and the variables of academic achievement and sex, but not with the branch of specialization.

## الذكاء العاطفي وتحصيل الطلبة الأكاديمي

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#### ملخص البحث:

يهدف هذا البحث إلى دراسة العلاقة مابين الذكاء العاطفي ومجموعة من المتغيرات تمثلت في تحصيل الطلبة، الجنس، والتخصص. وتمثلت فرضيات البحث في ثلاث فرضيات وضعت لدراسة هذه العلاقة. وبلغ حجم العينة ( ٤٨ ) طالبا وطالبة من طلبة المرحلة الرابعة في كلية التربية الأساسية بجامعة الموصل. وقد تم استخدام مقياس سالوفي وآخرون لقياس الذكاء العاطفي. أما تحصيل الطلبة الأكاديمي فقد تمثل بدرجات الطلبة التي أخذت من وحدة التسجيل في الكلية. كما تم استخدام معامل ارتباط بيرسون كوسيلة إحصائية. وقد بينت النتائج أن هناك ارتباط دال إحصائيا بين الذكاء العاطفي وتحصيل الطلبة وجنسهم في حين لم يكن هناك أي ارتباط مع تخصص الطلبة.

#### 1- Introduction

A great deal of excitement has surrounded Emotional Intelligence (henceforth EI) and its possible predicative ability. Among the first practical attempts to examine and apply EI constructs are those of Salovey and Mayer. These authors present, in a successive series of studies, a framework of EI, and a number of ways of measuring it. Moreover, Danial Goleman's book (1995) entitled " Emotional Intelligence" has participated successfully in the conceptualization and spread of EI.

The concept of EI refers to the ability to recognize the meanings of emotions, and to reason and problem solve on the basis of them. It involves the capacity to perceive, understand, evaluate, and manage our emotions and other's emotions. It is composed out of the interpersonal and intrapersonal intelligence, i.e. social intelligence. The former makes us feel of the internal relations between our thoughts and the events that face us. As for the latter, it allows us to deal and communicate with other persons in a more easy and competent way (Mayer et al., 2000).

Goleman (1999) states that the individual has two minds, viz. emotional and logical. These two types of minds are harmonized in a way that feelings and emotions are necessary for thinking and vice versa. Furthermore, the emotional state affects the mental state especially for teachers and students who have high degrees of anxiety, anger, and depression. For this reason, they become victims of such state that makes them unable to learn, assimilate, and make use of information proficiently. Although students' academic success depends on the educational, social, and psychological factors, emotions are considered the most important of them. Individuals who have high degrees of EI posses a group of social, and emotional skills like: self-awareness,

emotional self regulation, self-motivation, persistent effort, and social propriety. The decrease of these skills is disadvantageous for individuals thinking and success (see also Gallagher, 2002).

In the realm of the above-mentioned issues, some studies assert the fact that general intelligence alone does not guarantee students success and excellence. They also need EI as a pivotal predictor of success at the scientific as well as the practical domains. Mayer and Salovey (1990), Gardener (1993), and Goleman (1995) remark that cognitive intelligence participate by a percentage of (4-25) in students success, while EI participate by a percentage of (80) in this concern.

#### 2- The Problem:

A part from the controversial problem of which is the best prediction of success in life and work cognitive intelligence (CI) or EI; and the problem of finding the more reliable test for measuring EI, the problem of this study is presented in the form of some agitating questions, viz.

- 1- What is EI?
- 2- What are EI components?
- 3- Does EI have a role in student's academic achievement?
- 4- Is the relation between EI and student's academic achievement positively or negatively viewed?
- 5- What are the distinctive features of those who are described as being emotionally intelligent?

## 3- Hypotheses:

Considering the nature of EI and the link between emotional capacities and success, it is reasonable to hypothesize the following:

- 1- There is a statistical significant correlation between students' EI scores and their academic achievement.
- 2- There is a statistical significant correlation between students' EI scores and their sex.
- 3- There is a statistical significant correlation between students' EI scores and their branch of specialization, viz. scientific or humanities.

## 4- Aims of the Study:

This study is aimed at:

- 1- introducing EI as a new concept in psychology,
- 2- examining the level of EI and its scope of the study sample,
- 3- focusing on the relationship of EI with academic achievement,
- 4- attracting the reader's attention to the fact that being emotionally intelligent is an important factor in his/her success in life, and
- 5- attracting the psychologists' attention to the importance of EI to be studied with other psychological and educational variables.

## 5-Value of the Study:

The value of this study is crystallized in the following facts:

- 1- It discusses one of the new psychological concepts that appeared at the end of the twentieth century.
- 2- It explores the importance of emotions when they are used wisely, i.e. EI and its role in the individual's success in necessary life domains.
- 3- It clarifies the difference in academic achievement between those who are emotionally intelligent and those who are not if there is any.

4- The results of the practical side of the study would help those working in the field of psychological application to prepare guiding programmes and training sessions the aim of which is to improve some of the psychological variables that help the individual to develop his/her EI.

## 6- The Concept of El:

#### 6-1 Definitions and Models of El:

Numerous definitions of EI have been presented by different scholars as being a set of either capabilities, skills, or personal traits. Salovey & Mayer (1990:189) define EI as "the ability to monitor one's own and other's emotions, to discriminate among them, and to use the information to guide one's thinking and actions". A quite similar definition is the one coined by Van der zee et al. (2002:105) who treat EI as " the ability to perceive one's own and others emotions, to interpret one's own emotions and the emotions of others, and to cope with emotions of self and others effectively". Although Van der zee et al. claim that they are departing away from Salovey and Mayer's (1990) definition, it seems quite clear that they are using the same framework. The same dimensions of cognitive-behaviour, and self-others are used to classify the scales of EI. In a similar vein, Mayer et al. (2000) remark that EI refers to "the ability to recognize meanings of emotions, and to reason and problem solve on the basis of them". They add that EI "...involves the capacity to perceive emotions, assimilate emotion-related feelings, understand the information of those emotions, and manage them".

Given the range of variables that fall within EI, it seems that this group of definitions has a common ground of treating EI as the ability to understand, organize, and control self-emotions according to the

assimilation of others' emotions. These definitions encapsulates the model of EI termed by Brackett and Katulak (2006: 3) as the skill-based model. This model includes four EI skills, viz. perception of emotions, use of emotions to facilitate thinking, understanding of emotions, and management of emotions.

Another attempt towards a definition of EI is that of Goleman (1995, 1998). Goleman's concept of EI links between the structure of the individual's personality and a theory of action and job performance. For him, EI "refers to the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and our relationships". He focuses on EI as a wide array of competencies and skills and one of these competencies is the emotional competence. He considers emotional competence a learned capability based on EI that results in outstanding performance at work. Building on this definition, Boyatzis et al. (2000: 3) offer a descriptive definition of EI in the following manner: "EI is observed when a person demonstrates the competencies that constitute self-awareness, self-management, social awareness, and social skills at appropriate times and ways in sufficient frequency to be effective in the situation". Integrating these definitions together present a model of EI known as the mixed model which includes personal variables such as persistence and optimism, the tendency to make decisions based on feelings rather than logic, and/or the tendency to express one's emotions nonverbally (Brackett and Katulak, 2006: 4).

## 6-2 Components of EI:

Researches on EI have agreed upon the fact that this concept has formed out of many dimensions that are similar in their common sense and significance. The main classification of components are those presented by Goleman (1998), Mayer et al. (2000), and BarOn (2000). According to Goleman (1998), the structure of EI is composed of two main competencies, viz. the personal, and social competencies. The personal competence is reflected in the domains of self-awareness and self-management, while the social competence is translated into both social awareness and relationship management domains. Each one of these four domains underlie some learned skills. They are: (1) Selfawareness which includes emotional self-awareness, accurate selfassessment, and self-confidence. (2) Self-management which includes self-control, adaptability, emotional transparency, achievement orientation, initiative, and optimism. (3) Social awareness which includes empathy, organizational awareness, and service orientation. Relationship management which includes developing others emotions, influence, communication, conflict management, inspirational leadership, change catalyst, and team work and collaboration. Goleman's components of EI are illustrated in the following figure:

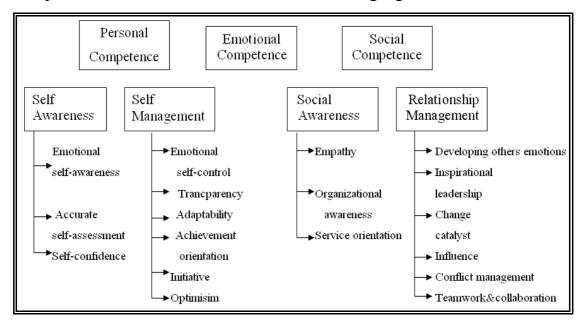


Fig. EI Components
Based on Goleman (1998)

In addition, Mayer et al. (2000) distinguish four dimensions of EI. These dimensions are:

- 1- Emotional perception: involves such abilities like identifying emotions in faces, music, and stories.
- 2- Emotional facilitation of thought: involves such abilities as relating emotions to other mental sensations such as taste and colour, and using emotions in reasoning and problem solving.
- 3- Emotional understanding: involves solving emotional problems like knowing which emotions are similar, or opposites, and what relations they convey.
- 4- Emotional management: involves understanding the implications of social acts on emotions and the relation of emotions in self and others.

As regards BarOn (2000) emotional quotient inventory, it groups five classes of key constructs. Each of these constructs comprises a number of closely related competencies, skills, and facilitators which are described as follows:

- 1- Interapersonal constructs: refers to self-regard, emotional self-awareness, assertiveness, independence, and self-actualization.
- 2- Interpersonal construct: refers to empathy, social responsibility, and interpersonal relationship.
- 3- Stress management: refers to stress tolerance, and impulse control.
- 4- Adaptability: refers to reality testing, flexibility, problem solving.
- 5- General Mood: refers to optimism, and happiness.

Building on what has been discussed so far, the researcher of this study has a vested interest to view EI as a combination of emotions, competencies, personal traits, and skills. It is the individual's ability to:

- 1- recognize his/her own emotions and others' emotions,
- 2- use the emotional knowledge to increase motivation and improve emotional communication, and

3- develop emotional relations in a way that guarantees success in many different domains of life.

#### 7- Literature Review:

Various investigators have engaged in research designed to examine and apply EI constructs within academic, medical, and other learning and work place settings. In this section, the researcher presents some of the recent studies that are dedicated for this purpose.

## 7-1 Pau et al.'s Study (2004):

In an effort to identify the relationship between EI and the capacity to cope with stress, Pau et al. (2004) investigated the relationship between EI and perceived stress among a cohort of dental undergraduates. The researchers hypothesized that increased EI might result in better stress coping mechanisms and thereby augment performance and/or life style. EI was assessed using a validated instrument developed by Schuette et al. (1998), cited in Pau et al. (2004), and perceived stress was measured using the Perceived Stress Scale (PSS-10).

After applying T-tests to compare the mean scores, the corelational analysis demonstrated that EI scale scores were inversely related to (PSS-10) scores. According to these results, the researchers concluded that dental students with greater degrees of EI may be more adept at coping and dealing with academic and non-academic stressful situations. Moreover, reducing perceived stress may improve academic performance as well as patient satisfaction.

## 7-2 Lopes et al.'s Study (2006):

In their study, Lopes et al. (2006) tested the theoretical associations between EI and multiple indicators of work performance including: salary, merit increase, company rank, ratings of interpersonal facilitation, and affect and attitudes at work. This relationship was examined in analysts and clerical employees from the finance department of an insurance company. The researchers used the Mayer-Salovey-Caruso EI Test (MSCEIT v 2.0) to measure EI; and they obtained data on salary, percent merit increase, and company rank from the company records to measure the indicators of work performance.

The main analyses of the results indicated that overall EI was positively and significantly related to percent merit increase and company rank, and managing emotions scores correlated significantly with salary and company rank. Therefore, Lopes et al. concluded that emotionally intelligent individuals received greater merit increase and held higher company rank than their counterparts. They also received better peer and/or supervisor ratings of interpersonal facilitation and stress tolerance than their counterparts.

## 7-3 Dunn et al.'s Study (2007):

Recognizing the potential for significant contribution of EI to affective forecasting ability, Dunn et al. (2007) examined whether people who are high in EI make more accurate forecasts about their own affective responses to future events. All participants, who were students in a psychology course (in study 1), and students in a marketing course (in study 2), completed EI measures and were asked to report their actual feelings in response to events, viz. a presidential election and term paper (for study 1) and a basketball game (for study 2).

In both of these two studies, the researchers used, in analyzing the data, one performance and one self-report measure of EI (the MSCEIT and Self-Rated Emotional Intelligence Scale (SREIS) respectively. The findings of these two studies asserted the individual differences in forecasting ability by participants' scores on the performance measure, but not the self-report measure of EI. This means that high EI individuals exhibited greater affective forecasting accuracy.

#### 8- Discussion of Previous Studies:

The present study has a common ground with the previous studies reviewed above in that it seeks to investigate the relationship between EI and some other variables. However, it is different in the nature of the variables to be examined. Unlike the variables of perceived stress, indicators of job performance, and affective forecasting ability which are all non-educational, the main variables in this study, viz. student's academic achievement and branch of study specialization are educational per se.

As regards the sample of the studies reviewed, we find both of Pau et al. (2004) and Dunn et al. (2007) are similar to our study in that they selected undergraduate students as their samples, while the sample of Lopes et al.'s study (2006) was administrative employees from a Finance Department of an insurance company. In addition, the present study is different from the previous ones in that it uses the Trait Meta-Mood Scale (henceforth TMMS) as the basic measure for testing EI (see section 9-2).

#### 9- Method:

## 9-1 Participants:

EI test was administered to a total of (48) undergraduate students. They were drawn from the fourth grade at the departments of Mathematics and English Language at the College of Basic Education/ Mosul University. Participants were divided into two groups representing the two departments and each group was formed out (24) students. (21) subjects were men, and (27) were women. The mean age of women was (22) and the mean age of men was (23). All students participated in this study on a voluntary basis and they were all native speakers of Arabic.

#### 9-2 Measures of EI:

In this study, EI ability was measured by the TMMS designed by Salovey et al. (1995). The TMMS is a 48-items test that measures the individual differences in the ability to recognize, discriminate, and regulate moods and emotions. This test includes three tasks the aim of which is to assess: (1) the degree of attention devoted to one's own feelings, (2) the amount of clarity of one's own experience of feelings, and (3) one's beliefs about negative and positive mood. For this reason the test is divided into three scales including: 21 items for defining the first scale (Attention), 15 items for the second scale (Clarity), and 12 items for the third scale (Repair). Using Cronbach alpha assessment, by the test publishers, provides an internal consistency of the three scales and as follows: Attention:  $\alpha$ : .86, Clarity:  $\alpha$ : .87, and Repair:  $\alpha$ : .82. It is important to mention that the researcher of this study has chosen this test purposefully, since the two scales of it, viz. Attention and Repair influence to a great extent the symptoms of stressful conditions like those

the student faces in the examination which affects his achievements to a great extent.

#### 9-3 Procedures:

All participants in both departments, Mathematics and English Language completed the TMMS of EI. This scale was presented in the form of a questionnaire in which the 48 items of the three scales reflect different real-life situations. Participants were asked to read each item carefully and then respond to randomly ordered items along a five point scale anchored by 1= strongly disagree, 2= somewhat disagree, 3= neither agree nor disagree, 4= somewhat agree, and 5= strongly agree (see the appendix).

Participants were asked not to leave any item without a response. If some of the ideas of the items were not clear for the participants, the researcher tried to explain this item to get finalized, definite responses. Since all participants were native speakers of Arabic and they don't have a proficient command of the English language, the researcher presented the TMMS in its Arabic version to guarantee absolute, accurate results. Moreover, the researcher assured participants that all responses were confidential and that no one at their departments would have access to individualized data.

#### 10- Results:

After conducting a statistical analysis by using Pearson Correlation Factor to compare the data obtained from the TMMS with the students' mean averages taken from the registration unit at the College of Basic Education, the results showed that there is a positive association between

students' EI scores and their academic achievement. These results are shown in table (1)

Table (1): Significant Correlation between EI and Students'
Academic Achievements

Variable	Calculated Mean	Standard Deviation	Correlation Factor	Tabulated T	Level of Significance 0.05
EI	156.79	12.21	0.168	0.344	Sig.
Academic Achievement	159.66	13.10	0.434		

The researcher, then, assessed whether sex differences existed in relation to students' EI scores. By using Pearson correlation factor as a statistical tool, significant sex differences were found and in advantage for the female students (M= 160.29, SD= 15.19) scoring higher than male students' (M= 156.16, SD= 9.24). Table (2) below represents the resulting correlation.

Table (2): Significant Correlation between EI and Students' Sex

Variable	Calculated Mean	Standard Deviation	Correlation Factor	Tabulated T	Level of Significance 0.05
Male Students	146.16	9.24	0.205	0.330	Sig.
FemaleStudents	160.29	15.19	0.337		

Finally, the researcher examined the relation between students' field of specialization and their scores on the TMMS. The analysis of the data revealed no statistical significant differences between the two branches of specialization, viz. scientific, and humanities and students' scores of EI. Table (3) shows these results.

Table(3): Significant Correlation between EI and Branch of Specialization

Variable	Calculated Mean	Standard Deviation	Correlation Factor	Tabulated T	Level of Significance 0.05
Scientific	158.22	12.61	0.213	0.243	Not Sig.
Specialization					
Human	70.75	9.21	0.073		
Specialization					

#### 11- Discussion of Results:

The present study provides an evidence of the relationship between EI and academic achievement. The data provided a great support for the first hypothesis, viz. " there is a statistical significant correlation between students' EI scores and their academic achievement". This means that students who have high scores of EI exhibited good grades in their academic achievements. The presence of such relationship goes in line with the suggestion that EI, by its nature, forms a basic part of general intelligence and has a significant role in students' academic achievement (Mayer & Salovey, 1990; Gardener, 1993; and Goleman, 1995).

Another important result of this study is that students' sex is strongly and directly associated with EI scores. This finding verifies the second hypothesis, viz. "there is a statistical significant correlation between students' EI scores and their sex". It quite notable from table (2) above that the calculated mean of female students (160.29) is higher than that of the male students (156.16). This may explain the nature of competition between male and female students in: (1) developing self-cognitive abilities, (2) working hard to acquire a reasonable level of such capabilities, and (3) enunciate clearly these capabilities. This would

probably presents an indirect support for the nature of the prevailing social nurturing which gives the chance for females to participate actively in different life domains.

Unexpectedly, the data reveals that the third hypothesis of this research, viz. "there is a statistical significant correlation between students' EI scores and their branch of specialization, viz. scientific or humanities" is rejected. This perspective implies that all branches of specialization, whether scientifically or humanely biased, need an advanced levels of EI. It is commonly known that scientific branches represent some psychological structures which are reflected in students' serious behaviours and the tendency towards rationale thinking more than paying attention towards emotions which is the basic attribute of humanities. Consequently, students' majoring in English are supposed to have higher EI scores than those majoring in Mathematics. However, the results show no confirmation of this assumption; no significant correlation between students' EI and their branch of specialization is there.

#### 12- Conclusions:

This research is dedicated to the study of a new psychological concept, viz. EI. EI is broadly defined in this study as the interrelation between some basic components like: emotions, competencies, personal traits, and skills. Such definition encapsulates the abilities an emotional intelligent person possess. These abilities are centered around the recognition of emotions, the improvement of emotional communication, and the development of emotional relations to guarantee success. Moreover, this study has shown that there are two groups of EI models, the skill-based model, and the mixed model. The difference between them

lies in the fact that the former subsumes some EI skills, while the latter includes some personal variables. Whatever the model is, there are three main classifications of EI components. The first classification treats EI as having two main competencies, viz. the personal and social competencies. According to the second classification, EI has four dimensions: emotional perception, emotional facilitation, emotional understanding, and emotion management. As for the third classification, it groups five constructs of EI. These are: interpersonal construct, intrapersonal construct, stress management, adaptability, and general mood.

By investigating the hypotheses outlined in this study, the results confirm the positive relationship between students' EI scores and their academic achievement. Such relation is obviously reflected in the fact that emotionally intelligent students are also successful in their fields of study. This study also shows that EI does correlate with students' sex in addition to their success at college. With the data presently available, it seems reasonable to conclude that female students have higher EI scores than male students. Consequently, female students are more successful than male students. Moreover, the findings of the TMMS suggest that although students have EI as a distinct construct, it has no true relation with their branch of specialization. This amounts to saying that EI is a construct clearly defined and it is an attribute of success irrespective of whatever the field of study is.

# 13- Recommendations, and Suggestions for Future Research:

In view of the aforementioned conclusions, the researcher recommends seeking a broad understanding of EI in order to develop it

and prepare educational programmes that guarantee high levels of students' EI. Furthermore, such programmes must concentrate on EI dimensions and characteristics especially those that predict more successful and fulfilling lives and better performance in order to be more effective. Therefore, the need for more research into this field is necessary. It is not enough to know that EI predict students' success; we also need to know how EI contribute to other criteria of life success such as interpersonal success or success in personal-oriented jobs like management or sales. Moreover, more research is needed to investigate the relationship between EI and other emotional variables like locus of control, self-esteem, and shame. Additional research is also needed to understand the relation between EI and other types of intelligence like the cognitive and intellectual intelligences.

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## **Appendix**

## **The Trait Meta-Mood Scale**

Please read each statement and decide whether you agree with it.

Place a number in the blank line next to each statement using the following scale:

5= strongly agree
4= somewhat agree
3= neither agree nor disagree
2= somewhat disagree
1= strongly disagree
1- The variety of human feelings makes life more interesting.
2- I try to think good thoughts no matter how badly I feel.
3- I don't have much energy when I am happy.
4- People would be better off if they felt less and thought more.
5- I usually don't have much energy when I'm sad.
6- when I'm angry, I usually let myself feel that way.
7- I don't think it's worth paying attention to your emotions of
moods.
8- I don't usually care much about what I'm feeling.
9- Sometimes I can't tell what my feelings are.
10- If I find myself getting mad, I try to calm myself down.
11- I have lots of energy when I feel sad.
12- I am rarely confused about how I feel.
13- I think about my mood constantly.
14- I don't let my feelings interfere with what I'm thinking.
15- Feelings give directions to life.
16- Although I'm sometimes sad, I have a mostly optimistic
Outlook

17- When I am upset I realize that the "good things in life" are
illusions.
18- I believe in acting from the heart.
19- I can never tell how I feel.
20- When I'm happy I realize how foolish most of my worries are.
21- I believe it is healthy to feel whatever emotion you feel.
22- The best way for me to handle my feelings is to experience
them to the fullest.
23- When I become upset I remind myself of all the pleasures in
life.
24- My belief and opinions always seem to change depending on
how I feel.
25- I usually have lots of energy when I'm happy.
26- I am often aware of my feelings on a matter.
27- When I'm depressed, I can't help but think of bad thoughts.
28- I am usually confused about how I feel.
29- One should never be guided emotions.
30- If I'm in too good a mood, I remind myself of reality to bring
myself down.
31- I never give into my emotions.
32- Although I am sometimes happy, I have a mostly pessimistic
outlook.
33- I feel at ease about my emotions.
34- It's important to block out some feelings in order to preserve
your sanity.
35- I pay a lot of attention to how I feel.
36- When I'm in a good mood, I'm optimistic about the future.
37- I can't make sense out of my feelings.
38- I don't pay much attention to my feelings.

##