



Full Length Research Paper

Emotional intelligence and its relationship to problem-solving ability among Al Isra University students in light of the students' gender and specialization variables

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This study aimed at investigating the relationship between emotional intelligence and ability to solve the problems of university students. The sample consisted of (200) male and female students in Israa University in Amman Jordan. To collect the data, two scales were used in this study including the scale of emotional intelligence, and the scale of the ability to solve problems. In order to answer the questions of the study, the T- test, one way ANOVA, correlation coefficients, and multiple regressions were computed. The results indicated that there was a positive relationship between the emotional intelligence and problem solving ability, with no significant differences in the dimensions of both emotional intelligence and problem solving ability due to gender. The results also indicated that there were significant differences in the emotional intelligence and problem solving ability between students in the scientific and humanitarian disciplines in favor of the scientific disciplines students. Recommendations were addressed accordingly.

Key words: Emotional intelligence, problem solving, University students

INTRODUCTION

Recently attention in emotional intelligent has been increased as a result of the spirit of the new era that embraced the non-traditional views of intelligence and the belief among many sectors that emotional intelligence holds the promise of solving many of the pressing problems of society, as the concept of emotional intelligence represents umbrella covers a wide range of skills and preparations, which is located outside the traditional intelligence capabilities, which mainly include the awareness of emotions and their impact on the cognitive aspects of studies, it has indicated that general intelligence alone does not guarantee individual success and excellence; but it needs to emotional intelligence, which is the key to success in the scientific and practical fields (Vincen, 2003) and Golman (1996) pointed that

mental is not prepared for a people to be able to run their own lives successfully, where it only contribute to 20% of success in life, leaving 80% to the other factors that contribute to this success, including emotional intelligence.

The results of many research studies confirms the importance of emotional intelligence as a key factor for the success of the individual in the study of social and professional life, evidenced by empirical research, which was conducted in order to develop emotional intelligence skills and the impact on the achievement of academic and professional performance and social interaction and motivation to accomplish (2005). (Bar - On study confirmed that the intelligent and emotional are Compatible, are warm, and persistent in, and optimistic, and enjoying mental and emotional health.

Add to that the higher levels of emotional intelligence with a positive impact on the individual's sense of personal happiness as the impact of emotional intelligence extends to the state of health and mental health of the individual and the emotional, as well as the extent of his sense of the quality of life (Austin, et al., 2005).

The weakness in emotional intelligence skills, hampering the performance of the mind partially or totally such as not being able to understand the emotions such as fear, anxiety, anger and control it, while the understanding of emotions and self-control, and positive communication, self-control, and ability to solve problems, and optimism in spite of the obstacles, all these things affect the mental performance and help it to be able to work at the best creative energies (Rizkallah, 2006).

Scientific research on the subject of emotional intelligence was associated to each of (Mayer & Salovey) as well as all of (Goleman & Bar-On). Goleman was the first tried to draw the theoretical and research interests in the field of emotional intelligence, in issuing his first book, "Emotional Intelligence" in (1995), he has stressed that the academic success between personal and professional can not be achieved without acquiring individual emotional and social skills (Elias, 1997). Emotional intelligence Includes as submitted by Golman two areas: Personal Competence which enables us to manage ourselves, and social competence which enables us to manage our relationships with others.

The Emotional Intelligence is a concept has its well-established historical roots , although it is of the newest types of intelligence that have emerged in the field of psychology with the beginning of the nineties, due to the evolution that occurs for the era in which we live, which requires an unconventional vision to the concept of intelligence (Pfeiffer, 2001) and the requisite individual's mental abilities, and emotional skills to solve problems they are facing it and the impact on other individuals. Where Mayer & Salovey (1997) indicates that the origins of emotional intelligence dating back to the eighteenth century, where the scientists divide the mind into three different sections: Cognition, and passion, Affect, and motivation.

Knowledge includes mental processes responsible for data acquisition, storage, and retrieval, and includes memory, deduction, thinking, problem-solving and decision-making, and knowledge related to intelligence. As passion refers to emotions and moods and different feelings such as happiness, sadness, joy, anger, fear and anxiety, Goleman (1995) defines strain that it is a state of emotion transfer information and ideas to others.

Mayer and Salovey (1997) define intelligence as a capacity showing how knowledge work well so that the individual learn, think and take decisions fast. The resulting aggregation concepts of intelligence and emotion to the emergence of the concept of emotional

intelligence, which includes the interaction and mutual influence between the emotional aspects and cognitive aspects (Bar-on and Parker, 2000) and motivation include the motives acquired or learned or goals that the individual is trying to achieve.

It is clear from the foregoing that the concept of emotional intelligence is still a new concept in the fields of psychology, and it is still under study and research and there is no specific definition which is known and agreed upon by most psychologists, but some of the written and discussions on this subject has been reviewed. it was defined by Mayer & Salovey (1995) that it is the individual's ability to control his private emotions and the emotions of the others and distinguish between them and the use of cognitive emotion in guiding the individual thinking and his actions. In 1999, Mayer and Salovey expanded the previous definition when he pointed out that emotional intelligence is the ability to distinguish emotions and relationships and reasoning and problem solving accordingly. And Goleman (1995) defined it as a set of emotional and social skills of the individual and the necessary vocational success, and success in life.

The researcher defined emotional intelligence as the individual's ability to recognize emotions and feelings of self and emotions and the feelings of others and be aware of it, organize and control and direct it, and the use of emotional knowledge to increase self-motivation and improving communication skills and develop positive relationships that meet the individual and others success in various spheres of life.

Through previous definitions of emotional intelligence researchers in the field of emotional intelligence have identified the dimensions of emotional intelligence Mayer and Salovey have presented a model of emotional intelligence known as "Ability Model" and it points that the ability to form emotional intelligence is a set of mental abilities contribute to logical thinking and feeling promotes thinking. Johnson (2008) has reached four dimensions of emotional intelligence namely: 1. recognize emotions 2 - Use emotions - 3 understand and analyze the emotions 4. Emotions' management

Goleman (1995) introduced a model of emotional intelligence included five dimensions that have been classified under two main components, namely:

- Personal Components) and includes three dimensions which are (self-emotional awareness, and the organization and administration of the emotions, and motivation and stimulate self)
- Social components and has two dimensions: (empathy, social skills).

Golman confirmed the importance of emotional intelligence in solving problems by referring to the social skills dimension as one of the five dimensions of emotional intelligence which sees the need for availability in each individually or collectively activity, and means how to form individual's relationships and friendships and

well-managed with others, and dealing with the community and all the skill and professionalism, problem-solving, conflict, and the ability to negotiate (Hussain, 2003).

After a closer look at this area of the models we say that emotional intelligence has a complex nature, it consists of a set of emotional capabilities and skills, and contribute to a person's success in practical life in particular and life in general. There is no doubt that there are quite a number of factors affecting the emotional intelligence; as gender, the academic specialty of the student. With regard to gender, the studies' results were conflicting, at a time that Al Masri (2007) study points out to the existence of gender differences in emotional intelligence in favor of females; the results of Al Masdar (2007) study indicated the existence of differences between males and females in emotional intelligence for the benefit of male; while the results of Ajwa (2002) study did not show an existence of gender differences in emotional intelligence.

Regarding emotional intelligence and its relationship to specialization, the results of the studies were conflicting as well, at a time when the results of Mesaieed (2008) study showed no statistically significant differences in emotional intelligence among students due to academic specialization for the benefit of students with humanitarian disciplines, results of Rabea (2007) study showed no statistically significant differences in emotional intelligence attributed to specialization in favor of scientific college students; while results of Ajwa (2002) study did not show an existence of differences between students with scientific disciplines and students with humanitarian disciplines in emotional intelligence.

The relationship between emotional intelligence and the ability to solve problems:

Emotional intelligence determines the extent of our success in the use of available capacity, as the emotional state of an individual can influence his thinking, Golman emphasized that the individual has two minds: the emotional mind and logical mind, including a wonderful coordinate where the feelings and emotions are necessary for thinking, and thinking is necessary for the feelings and sensations (Al Khader, 2002). This means that the emotional events can affect the intellectual processors, through how it enters the emotion to the cognitive system and change the knowledge, since it can be used as part of the cognitive processes such as problem-solving and reasoning, and decision-making, and in the creative fields.

Recently a number of psychologists reached results that are consistent with the findings of the Gardiner, that intelligence transaction (IQ) linking the success with a narrow range of skills such as language and other sports, as in (Van Der Zee, 2002) study. However, the general

IQ and emotional intelligence are not two opposing domains but are two separate methods to measure intelligence and the distinction between thinking and emotions, and the development of emotional intelligence skills compensate - to a large extent- mid-level and low-level of mental intelligence IQ (Rizk, 2003).

Mayer, Solovey (1997) Confirms that individuals differ in perception and understanding of the emotions, and the use of emotional information in problem-solving, and developing emotional intelligence contributes to the intellectual, emotional and social happiness of human which helps to adapt to life and cope with problems successfully, which is dependent on employment integrated mind and conscience, mind without conscience becomes futile, and conscience without mind becomes blind.

Nasser al-Shammari (2009) claims that the individual needs during the stages of solving the problem of the skills of emotional intelligence, which directly contributes to the support of the proposed solutions to the problems, and give the ability to deal with the pressures of life, which one can not escape from it, only through the consolidation of the kind of physical and mental and emotional balance.

Jaber Issa and Rabea Rashwan (2006) in their study claimed that the predictability of consensus and life satisfaction through emotional intelligence, where this study indicated the superiority of individuals with high emotional intelligence in the compatibility, life satisfaction, and in solving problems, and stress compared to individuals with low emotional intelligence.

John.SM (1997) study referred to in (Eman Shaheen, 2005) that there is a close relationship between self-awareness and solving social problems, where the study found that those who suffer from the frontal lobe of the brain suffer from a lack of self-awareness and a lack of damage solving social problems, and here we find that the problem-solving and self-consciousness are controlled by one place in the brain.

The ability to solve problems is a prerequisite in a person's life. Many of the situations that we face in everyday life are essentially require the positions of problem-solving, where is the problem-solving more forms of human behavior is complex and important, and because life is a complex and changing life and not a fixed in nature, it has become important to these students to gain skills that will help them adapt to the constant changes and make the right decisions in their lives, and the ability to solve the problems they face, whatever the degree of complexity and difficulty.

There are many studies that have examined the relationship between emotional intelligence and ability to solve problems, where Bastian, et al.(2005) study dealt with Emotional Intelligence as a predictor of life skills and cognitive abilities, and it was applied on a sample consisted of (246) students at the secondary level applied

to them emotional intelligence scale and another scale for life skills, which included academic achievement, ability to solve problems, the ability to cope with anxiety, and life satisfaction. The results showed a positive correlation between emotional intelligence and some life skills and cognitive abilities especially the ability to solve problems, and academic achievement.

The aim of the Al Badawi (2005) study is to prepare a training program based on the emotional intelligence to see its impact on the creative solution for problem, critical thinking, the sample formed of 162 female students from public secondary grade, the sample was divided into (81) students in the experimental group, and (81) in the control group and the researcher applied tools: a test of critical thinking, test the mental capacity, the test for creative solution of problem, the application of the training program based on emotional intelligence skills, and the most important findings: There are significant differences between the control group and experimental group, in Creative solution of problem for the experimental group, after the application of the program.

Reshmi (2006) study seeks to reveal the importance of emotional intelligence variables and solving social problems in the light of the position variables, geographic housing, social status, personality traits, and motivations and self-pragmatism , the study sample consisted of (129) of married girls , the results of the study showed that women with increased high emotional intelligence have the ability to solve social and family problems, and also to have the ability to manage their homes and take care of their kids better than others. Add to that they have high emotions and contribute to solving most of the family and marital problems.

The aim of Otto, Jurgon ,Lantermann, Ernst- Dieterm, (2006) study is to detect the possibility of solving complex problems predicted with reasonable certainty by the IQ test, but if the emotional emotions may increase the likelihood of this prediction, the study sample consisted of 63 students distinct and different in terms of clarity emotional problem -solving, whether severe or simple complexity, has been the ability to variable processing independent consideration, these tools were applied: problem-solving, and performance, and the mood in the quasi-experimental design, and the most important findings of the study: that the participants with high rates emotional clarity have shown behavior more appropriate in solving very complex problems, as they are generally better performance of participants with low rates emotional clarity , hierarchical regression analyses revealed that the emotional clarity is an indicator of performance to expect independently and with the same degree of processing capacity.

Through what was shown from earlier studies we note the lack of studies and especially the Arab in- limits of the researcher- which examined the relationship between emotional intelligence and ability to solve problems, from

here came the present study was to fill a gap in Arab Studies.

The Problem of the Study

In light of the theoretical framework and previous studies, the problem of the study is represented in investigating the relationship between emotional intelligence and the ability to solve problems, where the results ((Chernis, 2000) study confirms that the emotional and social abilities is an important dimension in cognitive performance and the processes of thinking and behavior, which is reflected positively in the development of an individual's ability to succeed and adapt to, the results also showed that emotional intelligence is one of the necessary requirements for academic success and success in the field of work and interacts with others.

On the other hand, the researcher noted through reviewing some of the research and studies related to emotional intelligence, that there is a lack of research and studies on emotional intelligence in relation to the ability to solve problems, within the limits of her attention. From this perspective the current study to become a necessary research which has its scientific justification; and the current problem of the study can be determined by answering the following questions:

1. What is the level of emotional intelligence among university students?
2. Is there a statistically significant relationship between emotional intelligence variable and its dimensions and the ability to solve problems variable?
3. Is it possible to predict a student's ability to solve problems through their grades in emotional intelligence?
4. Are there statistically significant differences in emotional intelligence and its dimensions variable attributable to student's specialization or gender among Isra University students?

Objectives of the study

The current study is descriptive correlation aims to achieve the following objectives:

1. Define the correlation between emotional intelligence and ability to solve problems.
2. Predict the ability of the students to solve the problems from their grades in emotional intelligence.
3. To identify the differences in emotional intelligence among university students, depending on the variables of specialization and gender.
4. Develop two scales for the Jordanian environment which are emotional intelligence scale in light of the Goleman model and scale to solve problems.

The Importance of the study

The importance of the current study of merged from several considerations, including:

From the theoretical side: The importance of the study of the importance of the concept of emotional intelligence has taken a lot of research and studies is heading toward it, some of the studies' results has indicated its association with several variables, it has been linked directly with proportional thinking processes, cognitive motivation and cognitive performance and emotional talent, age, job satisfaction and career and commitment prone activity personality (Mayer, 2001).

Emotions are an important and essential part of the psychological construction of man and determines his character and his ability to think and move towards a target, and determine the level of his ability and style that goes by his landmarks and this was confirmed by (Tueker) that poise emotional that determines the individual capabilities in dealing with the surrounding environment and problem-solving (salovey & caruso, 2001).

And the current research acquires an added importance as being conducted on the university and this importance is highlighted of two ways: The first is the age stage that experienced by university students, a youth stage and for this phase of the utmost importance in the life of society, where they have unlimited potential and the possibilities in the tender and construction, sacrifice, and abilities that qualify them some outposts in all fields, those young people are the future and hoped the strategic balance of real wealth held by the hopes of building the renaissance of the nation, so the interest in this segment means interest in the category which makes up the majority of the members of the community. The second point is the importance of the role of Isra University are based on preparing young people and rehabilitation of the functions of productivity in society and help them mature and develop physically, psychologically, socially, and provide them with the activities of multiple events allow the emergence of social relations and wide among young people extends its influence to the various aspects of life.

This study also provides a scale of emotional intelligence, and another scale of the ability to solve problems both with psychometric specifications fit the Jordanian and Arab environment.

In general, the studies in the Arab world for emotional intelligence are few- to the knowledge of the researcher - so this study may pave the way to further research and studies in this area.

The practical significance of this study lies in two things, namely: the definition of the decision makers in educational institutions with factors associated with the emotional intelligence of the students in order to provide them with the suitable learning environment that fosters the development of these factors. And work to develop educational programs for the development of emotional intelligence, the ability to solve problems. So this study

tried to identify the relationship between emotional intelligence and the ability to solve problems among university students.

Operational definitions

Emotional Intelligence: the ability of the individual to understand and grasp his emotions and feelings, and the emotions and the feelings of others and being aware of it, the use of emotional knowledge to increase motivation and improve communication skills, developing positive relationships that meet the individual and others success in various spheres of life. It is measured primarily by the degree obtained by the student on the emotional intelligence scale used in this study with its sub-dimensions (self-awareness, managing emotions, self-motivation, empathy, and dealing with relationships) and the total score for him.

The ability to solve problems: mental processes are used by the individual at his dissolution to any problem. The procedural definition of the ability to solve problems is the degree obtained by the student on the ability to solve problems scale which is used in this study.

The limits of the study

It is determined by the following:

1. The sample of the study, which was limited to a sample of Isra University students in the city of Amman, Jordan enrolled in the second semester of the academic year 2014-2015 and, therefore, the generalization of findings will be limited to the study population and similar communities.
2. The measurement tools used in the study.

The study methodology and procedures:

Study Approach

To achieve the objectives of the study descriptive method Correlative was used.

The Study Population and its Sample

The study population consisted of all regular undergraduate students at the University of Isra in the second semester 2014/2015 and according to the records of Admissions department; they were (5766) male and female students.

The Study Sample

The study sample consisted of 200 male and female students from the university students and they were chosen randomly using cluster sampling because the unit here is the section, four colleges were chosen randomly

from the university colleges, namely, (Educational Sciences, literature, engineering, and pharmacy), two sections were chosen randomly from the courses that are set by each college of the four colleges in the second semester of the academic year 2014 \ 2015 and **Table 1** shows the distribution of the study sample according to the variables of specialization and gender.

Table 1: The distribution of the study sample according to the variables of specialization and gender

variables	Gender	Male	Female	Total
Specialization	Humanitarian	48	48	96
	Scientific	56	48	104
Total		104	96	200

Tools of the study

The following tools were used in this study:

First: emotional intelligence scale: prepared by the researcher

First, the scale of emotional intelligence : after the researcher reviewed some of the emotional intelligence scales that was included in some of the published studies (Nabhan and Kamali 2003; Othman & Rizk, 1998; Mayer and Narimani and Basharpour, 2009; Salovey, 1990) she developed a scale of emotional intelligence; to suit undergraduates ; as some standards that seen by the researcher were developed a non-university students, while the others didn't include the dimensions adopted by the researcher in the study or have been carried out on a non-Jordanian environment. This was made possible for a researcher to take advantage of the previous scales mentioned in the preparation of the current tool in light of Golman model and the scale in its final version consisted of (50) items distributed on five dimensions:

Self - Awareness and refers to an individual's ability to identify and formulate emotions and feelings and expressing it and the needs related to it clearly, self-awareness is the basis of self-confidence, the individual need to know the strengths and weaknesses he got and taken this knowledge as a basis for his decisions. It consists of ten paragraphs took the following numbers (1, 3, 5, 7, 8, 16, 18, 19, 20, 22).

Managing Emotions and it includes the ability to deal with the emotions and control the negative emotions and

adjust the anger and to face anxiety, depression and other negative emotions, and he called it later self-regulation, consisting of ten paragraphs took the following numbers (13.15, 17.23, 32.34, 35.38 , 40, 41).

Self - Motivation It means the process leading to regulate emotions and feelings and directed to achieve the feat, the employment of potential and capacity for self-realization. It consists of ten paragraphs took the following numbers (25, 26, 27, 28, 29, 30, 31.39, 44, 45).

Empathy means the ability to emotions and helping others, participation and emotional sense, compassion and depends on self-awareness, the more the individual is aware of his emotions the more he is skilful in reading emotions. It consists of ten paragraphs took the following numbers (2.4, 6, 9.10, 11, 12, 14, 21.24).

Social Skills: The good and effective means of dealing with others based on the understanding and knowledge of their feelings. It consists of ten paragraphs took the following numbers (33.36, 37, 42, 43, 46.47, 48 , 49.50).

Each paragraph of the scale has answers consists of five grades, namely: applied always given (5) grades, and applied sometimes and given (4) grades, not sure given (3) grades, sometimes does not apply given (2) grades, do not apply at all is given one grade, and thus a higher virtual score can be obtained by the responder is (250) by (50×5) and the lowest virtual score is (50) grades by (50×1) .

To check the reliability and validity of the scale the following procedures were followed:

First: Validity

The content validity of emotional intelligence scale was verified by displaying the scale to seven arbitrators from faculty members specialized in educational psychology and measurement and evaluation in Jordanian universities; they were asked to indicate the extent of affiliation of paragraph to the dimension to which it belongs, and the clarity of paragraphs, and the safety of the language of paragraph and the suitability of the scale to the study sample, and make any comments they deem appropriate and the researcher adopted the proportion of agreement (80%) as a criterion for accepting paragraph. Based on this criterion, according to the opinions of arbitrators fourteen paragraph from the initial version of the scale have been deleted which is number (64) paragraph; because of the fact that the percentage agreed upon was low, the scale in its final form composed of (50) paragraph.

Internal construction validity: it was verified through calculating the interconnected correlation transactions of Sub-dimensional with the total score of the emotional intelligence scale (**Table 2**).

Table 2: Sub-dimensional correlation transactions Matrix to the emotional intelligence scale with each other and the total score

Dimensions	Self-awareness	Emotions Management	Self-motivation	Sympathy
Total score				
Self-awareness	.801**			
Emotions Management	.821**	.536**		
Self-motivation	.813**	.565**	.601**	
Sympathy	.771**	.513**	.639**	.590**
social skills	.802**	.517**	.571**	.538**
				.504**

It is clear from the above table that all dimensional correlation transactions with each other as well with the total score of emotional intelligence scale are statistically significant at the level (0.01), which achieves a high degree of internal consistency for sub-dimensions of the scale. This indicates that the scale of emotional intelligence has internal construction validity.

The reliability of emotional intelligence scale was verified through its application on (30) students from outside the study sample, the internal consistency coefficient was calculated using Cronbach's alpha

coefficient of the paragraphs of each dimension of the scale dimensions, the calculated correlation coefficients of the scale and its dimensions in this way has ranged between (0.37 - 0.66), has also been the reliability coefficient has also been calculated by testing and re-testing on the reliability sample itself and then re-applied it to the same sample after two weeks, the calculated correlation coefficients of the scale and its dimensions between the scores of students on the scale between the two times of application has ranged between (0.65 - 0.73). **Table 3** illustrates this.

Table 3: Reliability in a way-off and Cronbach's alpha equation for measuring emotional intelligence and its dimensions

Dimension	Cronbach's alpha	Reliability
Self-awareness	0.52	0.67
Sympathy	0.48	0.65
Emotions management	0.58	0.70
Self motivation	0.37	0.65
Social skills	0.66	0.73
Total score	0.73	0.86

Second: problem- solving scale

After the researcher reviewed many problem-solving scales, such as problem-solving scale that was developed by Hamdi (1998) based on the list developed by (Heppner & Petersen) in solving problems in (1982); and Smadi, (1992); and Alwan (2009) developed a scale

to solve problems; to suit undergraduates; as some standards that seen by the researcher developed for samples other than university students, while others didn't include dimensions adopted by the researcher in the study, or that may be conducted on a non-Jordanian environment. It has been possible for a researcher to take advantage of the above-mentioned scales in the

preparation of the current measurement tool where the scale consisted in its final form of (32) items distributed among three domains:

The mental domain: It consists of twenty-paragraph took the following numbers (1.2, 4, 5.9, 10, 13, 15, 16, 18, 19, 20, 21.22, 24, 25, 27, 28, 29, and 30).

Emotional domain: it consists of six paragraphs taken following numbers (3, 7.11, 23, 31, and 32).

Social domain: it consists of six paragraphs taken following numbers (6.8, 12, 14, 17 and 26).

Each paragraph of the scale has answers consists of three grades, namely: always given (3) degrees, and often is given (2) degrees, and rarely given one degree, and thus a higher virtual score of theory can be obtained by the respondent is (96) of (32×3) and the lowest virtual score is (32) scores by (32×1) .

The content validity of the scale of problem-solving was verified by displaying the scale to seven arbitrators from faculty members specialized in educational psychology and measurement and evaluation in Jordanian universities; they were asked to indicate the extent of affiliation of the paragraph to the domain to which they belong, and the clarity of paragraphs, and the safety of the language of paragraph and the extent of appropriateness of the scale to the study sample, and to make any comments they deem appropriate and the researcher adopted proportion of agreement (80%) as a criterion for accepting the paragraph. Based on this criterion, and according to the opinions of arbitrators eight paragraphs have been deleted from the initial version of the scale and number of paragraphs (40) due to the fact that the percentage agreed upon was low and the scale in its final form composed of (32) paragraphs

Internal construction validity: To check the semantics of the scale validity, construction validity for the problem-solving scale was extracted through calculating the correlation coefficients between dimensional grades and the total score of the scale as shown in (Table 4):

Table 4: Correlation coefficients between degrees of dimensions and the total score of the problem- solving scale

N.	Domains	Correlation coefficient with total degree
1	Mental domain	.801**
2	Emotional domain	.821**
3	Social domain	.813**

It is seen from the above table that all transactions correlation dimensions and the total score of the scale of problem-solving are statistically significant at the 0.01 level of significance) (This means that the measure is characterized by an internal validity which means it has a structural validity.

The reliability of the ability to solve problems scale was verified through applying it on (30) students from outside the study sample, the calculation of internal consistency coefficient using Cronbach's coefficient alpha of the scale paragraphs and the value of this coefficient as a whole has reached (0.70) and the reliability coefficient was calculated Using the test and re-test on the reliability sample itself and then re-applied it to the same sample after two weeks, the value of this coefficient for the scale as a whole has reached (0.74), and it is considered acceptable reliability transactions for the purposes of the study.

RESULTS OF THE STUDY AND ITS DISCUSSION

This study aimed to determine the level of emotional intelligence among Isra University students, and whether there are differences in the level of their emotional intelligence and ability to solve problems attributed to the variables of specialization and gender of the student, the study also aimed to investigate the relationship between emotional intelligence and the ability to solve problems and to predict the ability to solve problems through emotional intelligence, the results of the study have been discussed according to its questions as the following:

The first question: What is the level of emotional intelligence among university students?

To answer this question 'T' Test was used, and Table 5 shows that.

Table 5: "T" test between the average scores of emotional intelligence as a whole and medium premise for Test

Variable	Mean	Standard deviation	"T" value	Df	Sig
Total score for emotional intelligence	214.35	15.15	60.05	199	0.01

It is clear from the Table 5 that the average degrees of emotional intelligence among the university students is high as the arithmetic average of the scale of emotional intelligence was (214.35) with a standard deviation of (15.15), and when comparing this mean with the mean

premise of the scale of which was (150) it is noted that it is larger than average premise of the scale, which indicates that the Isra University students enjoy a high degree of emotional intelligence.

The reason for this can be attributed to that the students of the university at this stage had reached the degree of mental and emotional maturity and are enjoying a high degree of awareness by themselves and their emotions and control it and provide an appropriate response. They also have a high capacity to recognize the emotions of others and empathy with them and all this helps them to proper alignment with themselves and with others.

This result can be also explained also in the nature of Isra university environment; as it is a social environment of empathy, discussion, and social networking; giving students the ability to discover the feelings of their friends, and to understand the feelings of those individuals around them , courtesy of friends and deal

with them calmly, in addition to their ability to build friendships and communicate with others, all of the skills and capabilities essential for sympathy and communicate with others that are considered essential dimensions of emotional intelligence. The results of this study are consistent with the study of Al Masdar (2007), which indicated that the level of emotional intelligence among university students was a high level.

Question Two: Is there a relationship between emotional intelligence and the ability to solve problems among university students?

To answer this question the Pearson correlation coefficients were used, the following table shows the correlation between the degree of emotional intelligence and the degree of ability to solve problems. The [Table 6](#) illustrates this.

Table 6: Pearson correlation coefficients between the scores of emotional intelligence and the degree of ability to solve problems

Variables	Self-awareness	Sympathy	Emotional management	Self-motivation	Social skills	Total score of emotional intelligence
The value of the correlation coefficient	0.358	0.341	0.433	0.509	0.477	0.540
Level of significance	0.01	0.01	0.01	0.01	0.01	0.01

It is clear from [table 6](#) that there is a relational positive statistically significant relationship at the level of 0.01 between the total score of emotional intelligence and its sub-dimensions, and the total score of the ability to solve problems among university students, where the Pearson correlation between the total score of emotional intelligence and the total score to measure the power factor to solve problems reached (0.540) and this value is statistically significant at the level of significance 0.01, There is also a relational positive statistically significant relationship at the level of 0.01 between sub-dimensions of emotional intelligence and the total score to the ability to solve problems scale .the strongest correlation was between the dimensions of self-motivation as the value of the correlation coefficient was (0.509) , social skills as the value of the correlation coefficient was (0.477), while the correlation coefficients of the dimensions; manage emotions, self-awareness, empathy were lower (0.341) (0.358) (0.433).

This result could be interpreted through visualization theory to the study, which showed that people with high emotional intelligence are characterized by self-confidence and the ability to self-directing and appreciation and cooperation with others , and optimism, empathy, responsibility, openness, and motivation to

complete the work, they are also characterized by the ability to solve problems and independence, and to adapt to the pressures of life, and the ability to analyze the feelings and emotions of others, and use of the information available to solve problems and conflicts list, the Emotional Intelligence also helps to combine logic and emotions in solving problems, and increase the ability to sound positive thinking, planning and follow-up implementation to achieve goals no matter how difficult by choosing between alternatives and treatment of emotional events and employ it so it helps in the intellectual processing that facilitates the steps of the solution to the problem and that of by understanding the subjective feelings and understand other people's feelings and to express them, set goals and alternative ways to solve the problem, especially when developing the plan to resolve and do review.

Emotional intelligence also induces people to learn new information leading to the development of future plans focus on establishing the principles of mental processes such as analysis and syntheses, discrimination and evaluation, Directive proper thought is accompanied by feelings leads to the right thing to do, and right judgement, and increase confidence in solving the problem and perseverance in solving . The results of this

study are consistent with the results of Bastian, et al. (2005), which has shown that there is a positive correlation between emotional intelligence and some of life skills and cognitive abilities relationship special ability to solve problems, and academic achievement.

The results of this study also consistent with the results of (Otto, Jurgon; H, Lantermann, Ernst- Dieterm. 2006), which indicated that participants with clarity high rates emotions have shown behavior more appropriate in solving very complex problems, as they are in the best performance of the participants with rates of low emotional clarity.

Question three: Is it possible to predict a student's ability to solve problems from their scores on emotional intelligence variable?

To answer this question, a simple regression analysis was conducted; the **Table 7** shows the results of the analysis.

As shown in **Table 7** that the emotional intelligence interpreted about (29.1%) of the total variation in the ability to solve problems variable.

Table 7: Simple regression analysis to predict the capacity to solve the problems of the total score of emotional intelligence

predictors variables	Independent	The correlation coefficient R	Square of the correlation coefficient R ²	modified coefficient square	correlation	estimated standard error
		0.540	0.291	0.288		2.564

Table (8): Regression equation transactions to predict the capacity to solve the problems of the total score of emotional intelligence

Variable	B	Standard error	Beta	"T" value	Sig
Constant regression	65.94	2.58		25.58	0.01
Total score of emotional intelligence	0.108	0.012	0.540	9.024	0.01

it is clear from **Table 8** that the Emotional Intelligence variable shares in a statistically significant percentage in predicting the ability to solve problems among university students, as it interpreted a rate of (29.1%) of the variation in the level of emotional intelligence; which shows that (29.1%) of the change that occurred in the

capability to solve problems was due to emotional intelligence.

To find out the extent of the contribution of the dimensions of emotional intelligence in predicting the ability of university students to solve problems, a Regression Stepwise analysis has been done, the **Table 9** shows the results of this analysis

Table 9: Regression Stepwise analysis to predict the capacity to solve the problems of the sub-dimensions of emotional intelligence

Independent predictors	variables	Regression coefficient R	Square of coefficient R	regression	modified coefficient square	regression	estimated standard error
Sub-dimensions of emotional intelligence		0.563	0317		0.310		2.524

It is clear from **table 9** that the sub-dimensions of emotional intelligence has interpreted about (31.7%) of the total variation in the ability to solve problems variable.

Table 10 shows the results of one-way analysis of variance.

Table 10: Analysis of variance ANOVA for statistical significance of the combined regression coefficients

Source of variance	Sum squares	of Degree freedom	of Mean	"F" value	Sig
Between groups	582.681	2	291.340	45.744	0.01
Within groups	1254.674	197	6.369		
Total	1837.355	199			

It is clear from the Table 10 that the value of (F) is statistically significant at the level of (0.01); which indicates the effect of emotional intelligence on the students' ability to solve problems.

To find out the most important emotional intelligence dimensions that predict the ability of students to solve

problems, and its predictive value "T" on the grounds that the dimensions of emotional intelligence represents the independent variables, and the ability to solve problems represent the dependent variable, the Table 11 shows the results of the regression coefficients.

Table 11: Multiple regression transactions to predict the capacity to solve the problems of the sub-dimensions of emotional intelligence

Variable	B	Standard error	Beta	"T" error	Sig
Constant	68.33	2.210		30.92	0.01
Self-motivation	0.296	0.058	0.355	5.077	0.01
Social skills	0.194	0.047	0.287	4.102	0.01

It is clear from Table 11 that there is an influence of some sub-dimensions of emotional intelligence and not others on the students' ability to solve problems, where the "T" value for the self-motivation dimension was (5.077), but the social skills dimension was (4.102) and they are statistically significant at the significance level (0.01) We can then formulate the following predictive equation of the relationship between them:

The ability to solve problems = $68.33 + 0.296 \times \text{self-motivation} + 0.194 \times \text{social skills}$.

The results indicated that the emotional intelligence variable has interpreted a rate of (29.1%) of the total variation in the ability to solve problems variable. This can be explained in the light of the positive correlation relationship between the variables of emotional intelligence and ability to solve problems; this means that the emotional and cognitive sides of the personality supposed to work consistently so that the individual can control his emotions when facing dangerous or difficult situations because it makes the individual balanced and aware of his emotions and his ability to solve problems. As the awareness of emotions gives the impression that

the individual is in control of his emotions and is able to face his problems consciously. This was confirmed by Badawi (2005) study, which showed the effectiveness of a program based on emotional intelligence to improve students' ability in a creative solution to the problems.

Results related to the fourth question

Question four: are there any statistically significant differences in emotional intelligence and its dimensions due to gender and specialization of Isra University students?

To answer the fourth question the researcher did the following:

First: Relating gender

T.Test "T." was conducted for two independent samples; for comparison between the means of males' degrees and females' degrees in emotional intelligence and the five dimensions and table (12) demonstrates it.

Table 12: T. Test "T" for comparison between the means of males and the means of the females in the total score of emotional intelligence and its sub-dimensions (degree of freedom = 198).

Variable	Gender	Number	Mean	Standard deviation	"T" value	Sig
Self-awareness	Males	96	42.74	3.19	.883-	.379
	Females	104	43.30	5.40		not statistically significant
Sympathy	Males	96	44.81	2.54	1.173	.242
	Females	104	44.37	2.83		not statistically significant
Emotions' management	Males	96	41.95	3.71	.899-	.370
	Females	104	42.40	3.46		not statistically significant
Self-motivation	Males	96	43.35	3.65	1.231	.220
	Females	104	42.72	3.62		not statistically significant
Social skills	Males	96	41.66	5.15	.397	.692
	Females	104	41.40	3.79		not statistically significant
Total score of emotional intelligence	Males	96	214.51	14.69	.148	.883
	Females	104	214.19	15.64		not statistically significant

It is clear in Table 12 the lack of statistically significant differences between male and female students in the sub-dimensions of emotional intelligence as well as in the total score, with mean scores of male students totaled (214.51), while the mean score of female students were (214.19).

Looking at the table above shows us that gender does not affect on the nature of the relationship between two variables and this can be explained by the fact that emotional intelligence can be learned through modeling and social environment, especially the family, and then do not expect the emotional models that males are exposed to differ from models that females are exposed to and that the university students of both sexes live in the same conditions and their cognitive experiences are similar and convergent and moving in the same format.

The Previous result for the current study may be attributable to the lack of differences between male and female students in Sub-dimensions of emotional intelligence and the total score to tasks and academic pressures they face are not different between them, especially since the students of the study sample are from the university students, and the results of this study

consistent with the results of Ajwa (2002) study , which pointed to the lack of gender differences in emotional intelligence. The results of this study are not consistent with the results of the Al Masri (2007) study, which indicated the existence of differences between males and females in emotional intelligence in favor of females. The different results of this study with the results of the study of the source (2007 (which indicated the existence of differences between males and females in emotional intelligence in favor of males, it is likely that the reason for the difference is due to social and cultural factors; these two studies which their results differed with the results of the current study have been conducted in other environments, not the environment of the current study.

Second: Relating specialization

T.Test "T." was conducted for independent samples; for comparison between the means of students from scientific and humanitarian colleges in the total score of emotional intelligence and its sub-dimensions and Table 13 illustrates this.

Table 13: Test "T" for comparison between the means of students from the scientific and humanitarian colleges in the emotional intelligence and its sub-dimensions (degree of freedom = 198)

Variable	College	Number	Mean	Standard deviation	"T" value	Sig
Self-awareness	Humanitarian	98	40.82	2.66	7.84-	0.01
	Scientific	102	45.16	4.82		
Sympathy	Humanitarian	98	43.42	2.58	6.58-	0.01
	Scientific	102	45.71	2.32		
Emotions' management	Humanitarian	98	40.46	3.17	7.56-	0.01
	Scientific	102	43.84	3.16		
Self-motivation	Humanitarian	98	41.22	3.38	7.83-	0.01
	Scientific	102	44.75	2.99		
Social skills	Humanitarian	98	39.22	4.31	8.22-	0.01
	Scientific	102	43.74	3.42		
Total score for emotional intelligence	Humanitarian	98	205.14	11.48	10.46-	0.01
	Scientific	102	223.19	12.84		

As seen from the Table 13, there are statistically significant differences at the level of (0.01) in emotional intelligence level and its sub-dimensions of among Isra University students between the students of scientific faculties and students of humanitarian faculties; and can be seen from the arithmetic means that these differences in favor of scientific disciplines' students; where the mean was (223.19), while the mean of humanitarian disciplines' students was (205.14).

For the specialty, results indicated that the scientific college students are more intelligent and emotionally, and this result can be explained by that the scientific college students are more intelligent and emotionally as their subjects and their studies imposed on them, the scientific material needs of the student to control his emotions, especially being including a solution to the problems and issues which help students to solve problems that faced them, and this is also what made them better able to solve problems; the mathematical equations, for example, is a problem and requires the student's ability to solve them. It may also be due to the nature of social relations between students with each other, which increases the life experiences that will help them solve the problems they face. The results of this study consistent with the results of the study of Rabeah (2007) which indicated the presence of significant differences in emotional intelligence attributed to specialization in favor of scientific college students; while the results of this study varied from the results of Mesaieed (2008) study which indicated that the differences in emotional

intelligence are in favor of humanitarian disciplines, the results of this study also are not consistent with the results of Ajwa (2002) study, which pointed to the lack of gender differences in emotional intelligence between the different specializations.

RECOMMENDATIONS

- Conducting studies on the effectiveness of training programs in the field of intellectual intelligence to increase the students' ability to solve problems, and to promote the trend towards the use of training programs after the apparent effectiveness.
- Develop an integrated plan for training teachers who are hanging the educational process and the preparation of orientation programs for them to make them aware of the importance of the emotional side of the personality and the ability to solve educational problems.
- To study the relationship between emotional intelligence and the basic dimensions of personality.
- To study the relationship between the ability to solve problems and other variables such as motivation to achievement, and self-efficacy and others among the students from different stages of learning.

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