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"Theories - models of emotional intelligence"

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Abstract. Emotional Intelligence (EQ) is important in achieving the goals: personal and social of each person in synergy with general intelligence (IQ). In this work, the prevailing models of theories and evaluation of S.N are presented, and the role of ICTs in the application of their evaluation tools.

Keywords: Emotional Intelligence, theories, ICTs.

Introduction

Scientists believe that to lead a person to self-realization, IQ (Intelligence Quotient) should be in harmony with EQ (Emotional Quotient), wanting to emphasize the importance of Emotional Intelligence in people's life activities both on a professional level, both social and personal. In this way, theories and questionnaires for the evaluation of S.N were developed, the most basic models of which are presented in this work. According to Drigas & Driga (2019),

Emotional Intelligence

Emotion and Intelligence: Conceptual clarifications

The term "Emotional Intelligence" (E.N) contains two concepts, the concept of emotion and intelligence, which have been used for their conceptual clarification since ancient times: philosophers, psychologists, educators, and definitions have been given that mainly refer to the mental achievements of the individual and not so much on what intelligence is (Maridaki-Kassotaki, 2011), as is evident from the following definitions: a) Plato considers intelligence to be a " *learning speed*", b) Binet (1916) , the first founder of psychometric tests for the intelligence index, considered intelligence to be "common sense, practicality, initiative, the ability to adapt, understand, discover, direct and control", c) the next scholars, Stern and Claparède, argued that intelligence is the ability of individuals to adapt to

new situations, d) while newer researchers, Spearman, Thurstone, and Wechsler (Kassotakis & Flouris, (2006), argued that intelligence is the constitutive function of many individual mental functions and not the expression of a single characteristic of the person's personality and e) finally, modern scholars-researchers, (Gardner, 1983,1993) consider intelligence as a bundle of 8 different abilities that each separately constitute a form of intelligence.

Regarding the definition of cognitive intelligence, we can say that: it is what we can measure" while the scientific definition (Kassotakis, & Flouris, 2006; Flouris, 1996) defines it as: "*intelligence is a complex and complex mental function, in which many factors enter, consisting of which is the ability to acquire new experiences, to adapt to new situations and to make use of previous experience in dealing with new difficulties or problems*". Also, many different definitions were given from time to time for both the term and the concept: of "emotion". Since ancient times, "*emotion has been recognized as a function of the organism, which either by itself or in cooperation and interaction with mental functions contributes to the all-round development of man and strengthens his ability to adapt* ." (Maridaki-Kassotaki, 2011). Wechsler (1940) argues that emotion: "It is a general and complex ability of the individual to act based on the goals he sets, to think logically and to respond to

the demands of the social and natural environment that surrounds him".

Emotion has also been discussed since ancient times by Plato, who is considered the exponent of the first comprehensive theory of emotions, and by philosophers such as Parmenides, Empedocles, Heraclitus, Anaximander, Anaxagoras, and Heraclitus. who considered that the source of all human emotions is the human soul, which is fire and fiery exhalation, and argued- he connected the appearance of emotions with the manifestation of physical states, such as body temperature and sweat (Maridaki-Kassotaki, 2011). Then other later philosophers, such as Protagoras, Hippocrates, Democritus, and Socrates tried to give answers about the various human emotions.

Aristotle in a more systematic approach to emotions in his "Rhetoric" considers that emotions "are moods, temporary states of mind and not qualities of character or natural desires, arising largely from the prevailing perception of what is publicly attributed to someone or by someone at a given time. In this form, emotions influence judgments"(Ross, 1999).

Then the Stoic philosophers (Zeno, Chrysippus, Plutarch, Poseidonius, Seneca, Plotinus) connect emotions with the virtuous life that ensures calmness, peace, and tranquility of the soul, through the liberation of all passions.(Maridaki-Kassotaki, 2011)

At the end of the 19th century, in Psychology, the term emotion is overwhelmed by a multitude of definitions, and in the Anglo-Saxon literature terms such as *emotion*, *emotion*, *feeling* and *mood prevail* and various definitions and theories about emotions. In Psychology, however, the term emotion is used for the first time around the middle of the 18th century, by Hume to describe passions or love (Schmitter, 2016), while in modern theories about emotions, such as in the theory of positive emotions (Fredrickson, 1998; 2001) as respectively in previous theories of (Frijda, 1986; Frijda et al., 1989; Lazarus, 1991), *the term emotion expresses the multidimensional forms of the organism's reaction to environmental challenges, manifested at various levels, such as expressive, cognitive, the neurological, the physiological or biological, etc.* (Maridaki-Kassotaki, 2011), a definition that seems to be accepted today by most psychologists who study emotions.

Precursors and shaping of the modern concept: Emotional Intelligence

The term emotional intelligence was recently used in the popular and business world by Goleman,(1995; 1998a) , its formulation as a scientific concept has its roots in *social intelligence* by Thorndike (1920), while psychologists and research scientists developed various theories for each term trying to interpret emotional intelligence.

The individual types of intelligence have been studied from time to time and are summarized in 3

general categories (Platsidou, 2009): a) Abstract intelligence: which refers to the ability to understand and manipulate verbal information, mathematical advisors, etc. b) P R A C T I E N O M S I N: related to the ability to understand and handle specific objects. c) social skills: it concerns the ability to understand and manage human relationships.

The first 2 categories are the categories that most, past and present, theories of intelligence attempt to interpret, and measure, such as the primary factor theory (Thurstone, 1938), the theory of fluid and crystallized intelligence (Cattell, 1971), the ternary theory (Sternberg, (1985), the multiple intelligence theory (Gardner, 1983). Intelligence tests that measure abstract and practical intelligence were also based on the above theories (the Wechsler test for children, the well-known WISC, for adults the WAIS, but also the Raven test). The third category of social intelligence was defined by (Thorndike, 1920): as the ability one has to understand men and women, boys and girls, and to handle human relationships wisely.

Wechsler (1940) described the influence of non-mental factors on mental behavior and found that our models of intelligence will not be complete until we can describe these factors, while Sternberg's theory(1966). refers to the "Intelligence of Success" which concerns the individual's ability to adapt to the environment and adapt his needs and abilities to the environment to complete his personal goals.

Gardner (1983) in "Frames of Mind: The Theory of Multiple Intelligences", introduced the theory of multiple intelligences where he included 2 new dimensions of intelligence: interpersonal (Interpersonal) intelligence: the ability to understand someone's moods, motivations and desires, and feelings of other people and intrapersonal intelligence: the ability to understand oneself, to appreciate one's feelings, moods, desires, and motives.

It would be remiss not to mention that the term "emotional intelligence" was used in psychiatry by Leuner (1966), while two decades later Payne (1986) employed experts in his doctoral thesis "A Study of Emotion: Developing Emotional Intelligence", and finally Greenspan (1989) proposed an EI model, followed later by Salovey & Mayer (1990), and Goleman (1995) and Bar-On (1997).

Definition of Emotional Intelligence

Emotional Intelligence is considered a multidimensional concept and as a result, there are several definitions, depending on the aspect of emotional intelligence that scientists are trying to cover, although most analyze it in four thematic areas: perception, understanding, control, and use of emotion.

Some definitions are as follows:

a) According to the Greek dictionary: emotional intelligence is defined as " *one's ability to control*

one's emotions, to cope with emotional pressure, to develop one's abilities in areas such as imagination, art, and human communication".

b) Salovey and Mayer, define emotional intelligence as "a type of social intelligence, which includes the ability to monitor your own and others' emotions, the ability to distinguish between them and use information from them to control your thoughts and actions" (Salovey, & Mayer, 1990)

- ✓ "The ability to accurately and efficiently process emotional information related to the recognition, reproduction, and regulation of emotion in ourselves and others" (Mayer & Salovey, 1995).
- ✓ "the ability to perceive, express and evaluate emotion, to recall emotions when they facilitate thinking, to understand and use emotional knowledge and to manage emotions to promote emotional and intellectual development" (Mayer, & Salovey, 1997).

c) Goleman's definitions for the concept of emotional intelligence are:

- ✓ "a group of abilities that refer to self-control, zeal, persistence, motivation, impulse control, restraint, managing moods, avoiding the influence of emotions on the thought process, hope, and the encouragement" (Goleman, 1995)
- ✓ "ability: knowing how you feel and being able to manage those feelings before you let them 'manage' you, being able to motivate yourself to complete your goals, being creative, giving your best effort your abilities, understanding what others feel, and to be able to effectively handle relationships with them" (Goleman, 1998a)
- ✓ "a combination of skills that includes self-awareness, managing your emotions, motivation, empathy and social skills."
- ✓ "Emotional intelligence is the ability to regulate your mood, to rein in your passions, resistance to disappointments, optimism, empathy."

Other definitions by scientists-researchers define SEN as "a field of non-cognitive abilities, skills, and experiences that affect a person's ability to cope with the difficulties, pressures, and demands of their environment" (Mayer, & Salovey, 1997), "the individual's ability to identify, accurately assess and distinguish his own and others' emotions, to understand them, to "assimilate" them in his mind and to regulate both negative and positive emotions, in himself and others others". (Martinez-Pons, 1997-1998).

Other researchers (Mayer, Salovey, & Caruso, 2000a) define emotional intelligence as "the ability to correctly direct the emotional reactions of others to various events and to be able to

intervene in their feelings in an appropriate way", Handley, (1997) defines emotional intelligence as "a series of of non-cognitive capabilities, abilities and skills that affect one's ability to successfully cope with environmental demands and pressures", Orioli, Jones, & Trocki, (1999) proposes as a definition of emotional intelligence "a kind of intelligent tactics that contain such things as the ability to remain calm under pressure, to develop a climate of trust in your interpersonal relationships, to be creative and to try to develop others", while according to Sparrow, & Knight, (2006) emotional intelligence is defined as "the practice of observing your own emotions, as well as those of others, to give them importance and meaning, to process them and take them into account when it is to take from phases" and Rock (2007). finally considers emotional intelligence to be "the ability to use our emotionality in intelligent ways so as to facilitate our interpersonal relationships".

Theoretical Models (Classification)

A person's general intelligence consists of not only cognitive intelligence but also emotional intelligence and they make up personality. Just like cognitive intelligence, emotional intelligence is difficult to define. All the theories for the interpretation of emotional intelligence that have been formulated treat it "as a complex concept that includes several dimensions (abilities, characteristics, skills) and refers to various fields of human nature (cognitive potential, personality, behavior) (Platsidou, 2004).

Based on what these theories focus on, they can be classified into three categories:

1. *Theories-models of ability*: consider emotional intelligence as an ability of the mind that has correspondences, in terms of its structure and organization, with the other types of intelligence, which refer mainly to cognitive abilities. Representative is the theory of Mayer, Salovey & Caruso.

2. *Theories-models with personality framework*: interpret emotional intelligence as a combination of adaptation abilities and personality traits - BarOn's theory.

3. *Theories-models of performance*: they try to explain and also predict the effectiveness and performance of someone in their work, based on the way their personality is organized - Goleman's theory.

According to another classification, the theoretical models of emotional intelligence are summarized in 2 categories:

a) *Theoretical models of ability*: it is the category that includes models such as those of Mayer, Salovey & Caruso, which focus on the ability to process emotional information and interpret emotional

intelligence as a set of motivational abilities and skills related to emotions.

b) *Mixed theoretical models*: they include personality-framework models and achievement models. Models in this category interpret emotional intelligence as a combination of non-cognitive abilities, personality traits, motivational factors, abilities, and skills that determine how successfully a person copes with environmental challenges and pressures, social as well as moral abilities. Mixed models include Bar-on's model, Goleman's model, and Petrides and Furnham's model.

Then they are detailed: the theoretical model of Mayer, Salovey & Caruso, the theoretical model of Goleman, the theoretical model of BarOn, and The Pyramid of Emotional Intelligence: The Nine-Layer Model of Drigas & Papoutsis.

Emotional Intelligence Assessment Tools

In recent years, various psychometric tools (scales or tests) have been developed to measure and evaluate emotional intelligence, both at a scientific level and at a popular level ([Platsidou, 2004) as is evident with the abundance of tools circulating on the Internet.

To have a valid assessment of emotional intelligence, one needs to know how the theory based on which the specific test was constructed defines emotional intelligence (the nature, content, and abilities that make it up and how it measures them). Thus, depending on their theoretical background, the psychometric tools or tests proposed to measure emotional intelligence can be classified into 3 categories:

- ✓ Self-report test: It is the most common way to measure abilities and characteristics related to emotional intelligence, such as empathy, concern, etc. They are usually in the form of a questionnaire. The BarOn questionnaire belongs to this category with a personality framework: Emotional Quotient Inventory (BarOn EQ-i) (Bar-On, 2000).
- ✓ References of others (360-degree test or hetero-reference test): In his tests type, some other persons (parents, teachers, classmates, supervisors) are asked to assess one's emotional capacities and characteristics. They are usually in the form of a questionnaire. A measurement tool of the mixed model category is the Emotional Competence Inventory (Boyatzis, et al., 2001).
- ✓ Tests for objective measurement of abilities: These tests are also applied to the measurement of cognitive abilities and the examinee is asked to produce solutions to problems, or to give answers to questions of emotional content and is graded according to the success achieved.

The Mayer, Caruso & Salovey, Emotional Intelligence Test (MSCEIT) (Mayer, Caruso & Salovey, 1999), is the representative example of the class of ability models.

Then there will be a detailed reference to the means of emotional intelligence evaluation in correspondence with the theoretical models, starting with the model of Mayer, Salovey & Caruso, then Goleman, BarOn, and finally The Pyramid of Emotional Intelligence: The Nine-Layer model Model of Drigas & Papoutsis (2018).

Theories of Ability

Theoretical Model of Ability: Mayer, Salovey & Caruso

Emotional intelligence, according to Mayer, Salovey & Caruso, is defined as: "a form of social intelligence that includes the ability to understand one's own and other people's emotions, to make subtle distinctions between different emotions, and to use this information to guide one's thoughts and behavior accordingly or to feed back emotions" (Mayer, & Salovey, (1993).

According to researchers (Boyatzis, Goleman, & Rhee (2001) emotional intelligence is a new type of intelligence and this is what their findings show from the tool they have built that measures an independent type of intelligence and includes – covers recommend four areas: a) the perception and recognition of emotions: it is the ability of the individual to perceive the emotions, both his own and those of others and which are reflected in facial expressions, tone of voice, etc., b) the integration-assimilation of emotions in the way of thinking (emotional facilitation of thinking): it is considered the ability of the individual to be able to use (retrieve or produce) the appropriate emotions that facilitate thinking and to be able to reflect on them. emotional facilitation of thinking refers to the ability to process emotional information that affects the cognitive state of the person accordingly, and makes the thinking process richer, c) understanding emotions refers to the ability to understand complex emotions and emotional chain reactions, how emotion becomes the occasion for the initiation of another through cognitive processing of emotions by developing the ability of individuals to understand interpersonal relationships and d) the management of emotions: this is the ability to manage both personal emotions and those of other individuals, to perceives - correctly evaluates what is hidden behind emotion and develops - finds the most appropriate ways to deal with emotions such as fear, worry, anger, sadness.

Emotional talent, in the framework of the above model, is a meta-skill that determines how well we can handle any skill we possess.

Salovey states that emotional intelligence consists of 5 main areas, which are as follows:

1. The knowledge of our emotions: the ability to perceive and recognize emotions at any moment, which is important for psychological insight and self-understanding.

2. The control of emotions: the ability to manipulate and control our emotions so that they are appropriate at all times. This particular skill is built on self-awareness, with the result that people who have mastered this skill quickly overcome life's setbacks and disappointments, unlike people who lack it, who always fighting feelings of depression.
3. Self-motivation: the ability that enables individuals to be productive and efficient in whatever they set out to do.
4. Recognizing the feelings of others – empathy: this ability enables people who have developed it, the “empathic” people, to be more receptive to the silent social signals that indicate what others want or need, consequently being better in professions related to social service, teaching, sales, and management.
5. Management of relationships or the ability to handle the emotions of others: a skill that lies behind popularity, leadership, and interpersonal success, and its mastery help people who possess it to excel in all areas related to communication with other people.

Measurement of Emotional Intelligence according to the Questionnaire of Mayer, Salovey & Caruso

Mayer, Salovey & Caruso, to assess emotional intelligence created their measurement test based on their theoretical model (ability theory). They constructed the Multifactor Emotional Intelligence Scale (MEIS) test (Mayer, Caruso, & Salovey, 1999) and then after testing and refinement the Mayer, Salovey, Caruso Emotional Intelligence TEST (MSCEIT) (Mayer, Salovey, Caruso, 2002; Mayer, Salovey, & Caruso, 2004) was created. The MSCEIT has been translated into Greek (Kafetsios, 2004; Kafetsios, & Petratos, A. (2005) and includes 141 questions and problems. (Platsidou, 2009).

The test includes 4 parts that refer to the measurement of the 4 competence areas mentioned in the theory and the examinee is scored both in each competence area (perception, integration-assimilation, understanding, and organization of emotions) separately and in general emotional intelligence. In the first part of the test, the ability to recognize emotions in faces, drawings, and landscapes is examined, in the second part, the assimilation of emotions is graded, i.e. the person's ability to translate emotions and the way they interact with their cognitive functions is examined (Cattell, 1971), in the third part it scores the understanding of emotions through projects that examine the individual's ability to find the appropriate way to match emotions, while in the fourth part the individual's ability to manage emotions is examined, and aims at the correct way of using emotions for making decisions.

Also, the 4 areas can be distinguished into two larger areas: the Biological or emotional area which includes the sub-scales: perception, integration-assimilation of emotions, and the STRATEGIC or emotional domain which includes the understanding and management of emotions (Kafetsios, & Petratos, 2005). The time required to complete the test is approximately 30-45 minutes, while the examinee's answers are graded by: a) the experts' criteria, the experts' proposed solutions, and b) the consensus score, based on the average answer of the population from which the sample comes.

In the MSCEIT test, there is no "absolutely" correct answer for each of the projects or test questions, the "correct" comes from the general distribution of the answers. According to research by Mayer, Salovey, Caruso (2002), this method is more effective than the target method (target method, when participants are asked to evaluate the emotional state of people for whom we know the emotional state or projects for which experts have decided. (Kafetsios, 2003).

Performance Theories

Goleman's Theoretical Model of Emotional Competence

Goleman brought emotional intelligence to the forefront of interest and drew the attention of the public, various professional groups, and the scientific world (Cherniss, 2000) with the publication of his books "Emotional Intelligence" (Goleman, 1995) and "Emotional Intelligence in Work Relations".

Goleman created his theoretical model belonging to achievement theories and argues that we have two types of intelligence: intellectual and emotional and argues that both types of intelligence reflect the activity of different centers of the brain: intelligence is based solely on the function of the neuro-cortex, the most recently developed parts of the brain, while emotional intelligence is based on the emotional centers located in deeper areas in the oldest sub-cortex (Cole, & Cole, 2002), which centers work in coordination with the intellectual centers.

Goleman defined emotional intelligence as the intelligence of the heart and refers to abilities, being able to find motivation for oneself, withstand disappointments, control impulses, curb impatience, regulate one's mood, prevent frustration from stifling one's capacity for thought, empathy, and hope" (Goleman, 1995)

The psychologist Goleman (1998a) introduced a new model of interpretation of emotional intelligence as described in his book "Emotional Intelligence" and argues that our path in life is determined by the balanced development of both types of intelligence as the intellectual dimension does not ensure success in humans when the emotional domain is not equally developed in a balanced way (Goleman, 2001), he considers

emotional intelligence to be very important and confirms the view that for a person to succeed in life it is not enough to just be smart and argues that intelligence as a set of cognitive abilities measurable by intelligence tests and IQ contributes only 20% to one's life success (Platsidou, 2004). a view supported by other scientists (Schmidt, Frank & Hunter, (1998); Sternberg, 1998) while 80% of success is due to emotional intelligence. Also, Goleman with the argument that emotional intelligence develops with practice over the years of the individual brought the optimism that cultivating emotional intelligence in appropriate ways and methods increases the approach to success in the field in which the intervention is made (work performance, education children, interpersonal relationships, etc.). (Platsidou, 2004).

Despite the above that a high IQ does not guarantee happiness in life, the educational process in our educational institutions focuses attention on academic skills and ignores emotional intelligence, which has unlimited importance for our destiny (Goleman, 1995).

Goleman in The Emotional Competence Framework model defines emotional intelligence as a range of abilities and skills and proposes to interpret emotional intelligence as "the ability of the individual to recognize the emotions of both his own and others, to create motivation for the self to manage emotions well within oneself and one's relationships with others (Goleman, 1998a), to

motivate oneself to achieve goals and to persevere despite frustrations, to control one's impulses and to be able to delay gratification to be able, when necessary, to regulate his mood and allow anxiety and worry to interfere with his ability to think straight, to possess empathy and optimism".

Goleman, (2001) distinguishes 4 clusters of emotional abilities, each consisting of five emotional skills (Platsidou, 2004), they are not inherited factors or talents but are acquired abilities that are conditions for success in career and relationships, i.e. our emotional intelligence determines the abilities we have to turn them into practical skills. which are based on five elements: *self-awareness, behavioral motivation, self-regulation, empathy, and competence in relationships with others*, which are organized into groups, while each of them is based on a common core dimension of emotional intelligence, and no human being has developed all abilities to their fullest extent, so we all present a profile of strengths and weaknesses.

According to Coleman, the characteristics of the abilities of emotional intelligence are independence: each contributes in its way, interdependence: each influences to some extent some others while at the same time there is a strong interaction between them, and hierarchical connection: one builds on the another, a necessity but not a skill: the existence of a basic ability of emotional intelligence does not guarantee that the development of and related skill.

Chart 1: Goleman model: The Emotional Competence Framework. (Source: Goleman, 2001; Platsidou, 2004).

	SELF	OTHERS
	PERSONAL CAPACITY	SOCIAL ABILITY
RECOGNITION OF EMOTIONS	<p>SELF CONFIDENCE Emotional self-awareness</p> <p>Accurate self-assessment Self-confidence</p>	<p>SOCIAL AWARENESS - Empathy - Service orientation -Organizational awareness</p>
REGULATION OF EMOTIONS	<p>MANAGING SELF Self-control Reliability Conscientiousness Adaptability Achievement Motivation Initiative</p>	<p>RELATIONSHIP MANAGEMENT Development of others Influence Contact Conflict management Leadership ability A catalyst for change Create links Teamwork & cooperation</p>

According to the chart above, the 4 basic abilities for developing emotional competence are defined as:

A) Personal Skills: determine how a person handles himself and are recommended by the individual skills:

1) Self-awareness: The person with self-awareness can present:

- ✓ *emotional awareness*: to recognize one's personal feelings and their effect,
- ✓ *self-esteem*: recognizes one's capabilities and limitations, and *self-confidence*: is confident in one's worth and capabilities.

2) Self-management: A person with self-management skills exhibits:

- ✓ *emotional self-control*: successfully manages stressful and impulsive emotions
- ✓ *trustworthiness*: maintaining the values of honesty and integrity
- ✓ *conscientiousness*: taking personal responsibility for his actions and behavior
- ✓ *adaptability*: flexibility in dealing with change
- ✓ *achievement motivation*: striving to improve and achieve excellent performance
- ✓ *initiative*: readiness for action at every opportunity.

B). Social skills: determine the way we handle our relationships with others and consist of the following skills:

1) *Social-awareness*: The person who possesses the ability of social awareness presents:

- ✓ *awareness of others' feelings and mobilization to defend their interests*
- ✓ *orientation towards the service of fellow human beings*: anticipating, understanding, and satisfying the needs of others
- ✓ *organizational awareness- awareness of the whole*: awareness of the relationships and dynamics of a group.

2) *Relationship management*: The person who possesses this skill is governed by Platsidou (2004)

- ✓ *ability to develop others*: insight into the needs of others to develop and enhance their abilities
- ✓ *influence*: exercising persuasion with effectiveness
- ✓ *communication*: effectiveness in messaging ;
- ✓ *conflict management*: negotiation and dispute resolution;
- ✓ *leadership ability*: to inspire and guide individuals or groups
- ✓ *a catalyst of change*: to establish or catalyze change
- ✓ *bonding*: creating close relationships in the group
- ✓ *teamwork and cooperation*: everyone works to achieve a common goal.

Measuring Emotional Intelligence according to the Goleman Questionnaire

Goleman, the creator of the theoretical model of performance, constructed the Emotional Competence Inventory 360 (ECI 360) to measure emotional competence (Boyatzis, Goleman, & Rhee, 2001).

The ECI is a 360-degree test where some people (colleagues, superiors, subordinates, partners) are asked to evaluate the emotional competence of a person in their workplace.

The latest version, the ECI 2.0, assesses four general competence categories that encompass a total of 18 skills:

- a) *Self-knowledge-self-awareness*: examines the ability to know personal feelings, accurate self-evaluation, and self-confidence,
- b) *Self-management - self-management*: includes abilities for self-control, reliability, conscientiousness, adaptability, initiative and goal orientation, optimism, transparency
- c) *Social awareness*: here empathy, organizational awareness, and service orientation are examined,
- d) *Relationship management*: the ability to lead, communicate, influence, catalyze change, manage conflicts, create bonds, teamwork, cooperation, and development of other people is examined.

The ECI 360 is used to measure and evaluate an individual's emotional and social abilities that are considered related to job performance. This assessment offers information on which areas (abilities or skills) a person's emotional competence is low and should develop to achieve higher performance and effectiveness at work.

The ECI, also, can be used to outline the emotional competence profile of an organization or business, with the ultimate goal of highlighting the existing growth potential, and for this purpose, it is available in versions suitable for use by professional groups: salespeople, business executives, students, etc. (Platsidou, 2004). In Greek, the ECI has been used in a small number of studies (Diamantopoulou, 2001; Kafetsios, K., et al., 2009).

Mixed Model Theories or Models with a Personality Framework

BAR-ON Theoretical Model: A Model for Emotional and Social Intelligence

Handley (1997) defines emotional intelligence as a complex concept defined as "a set of non-cognitive capacities, abilities, and skills that influence one's ability to successfully cope with environmental demands and pressures".

The model proposed by BarOn, & Parker, (2000) consists of the following five categories, each of which includes a series of specific skills (Platsidou, 2004) :

- 1) Intrapersonal abilities which include the skills:
 - a) emotional self-awareness: the individual's ability to recognize and understand their own emotions
 - b) assertive behavior: the ability of the person to express his feelings, his beliefs, his thoughts and to defend his rights.
 - c) self-respect: the individual's ability to understand, accept and respect himself.
 - d) confidence in personal capabilities: the ability to perceive the individual's abilities and to be able to achieve what he desires.
 - e) independence: the individual's ability to control his behavior and thoughts without being emotionally dependent on others.

2) Interpersonal skills which include the abilities to:

a) empathy: the individual's ability to understand the feelings of others.

b) interpersonal relationships: the ability of the individual to create and maintain relationships characterized by affection, and emotional closeness.

c) social responsibility: the individual's ability to participate in social groups in a cooperative, constructive manner.

3) Adaptability: which includes the following abilities:

a) stress tolerance: the individual's ability to withstand stressful situations and strong emotions and deal with them with a positive attitude.

b) impulse control: the individual's ability to control his emotions, his impulses, his needs.

4) Stress management which includes the skills?

a) problem-solving ability: the individual's ability to recognize, identify personal and social problems and be able to apply ways of solving them.

b) reality control: the individual's ability to distinguish subjective personal experience from the objective external situation.

c) flexibility: the ability to adapt the individual to changing conditions.

5) General disposition: which includes the abilities:

a) happiness: the ability to feel satisfied with one's life, to feel good, and to express positive emotions.

b) optimism: the ability to see the positive side of things even in difficult situations.

Also, Bar-on classifies the above abilities, and in a second way, into 3 categories that are hierarchically related to each other, and emphasizes that the abilities of the first category are the foundation on which the abilities of the next category are built:

1) *Basic skills:* emotional self-awareness, empathy

2) *Supportive skills:* confidence in interpersonal abilities, optimism

3) *Follow-up skills:* problem-solving, developing interpersonal relationships.

According to Bar-on's model, a person with high emotional and social intelligence can effectively deal with any changes that occur in his personal or social environment, adapt to the circumstances, and successfully solve any problems. To achieve the above he should organize his emotions, in a way that benefits the person himself, but also possess optimism and a capacity for ear-motivation. (Bar-On, 2006).

Bar-on believes that emotional intelligence and mental intelligence contribute equally to a person's general intelligence, an indicator that is likely to bring about success in life. Bar's model of personality has been criticized in the research literature regarding the validity of self-ratings as an indicator of emotional intelligence. (Platsidou, 2004).

Measurement of Emotional Intelligence according to the Bar-On Questionnaire

BarOn was one of the first to develop tests to measure emotional intelligence and argued that, just as we use an IQ to measure cognitive

intelligence, we can also use an index to measure emotional intelligence.

Based on this hypothesis, and after tests in large samples and different cultural environments, he constructed the recent version of 2004 the Emotional Quotient Inventory (EQ-i) test, a scale to measure the Emotional Intelligence Index (BarOn, 2004a; 2004b). It is a self-report questionnaire consisting of 133 statements where the subject indicates the degree to which each statement applies to him/her, on a five-point Likert scale (1-5) and statements such as "I have good relationships with other people", "I like to help others."

Following the structure of a classic intelligence test, the EQ-i gives a total Emotional Intelligence Index and five other sub-indices that each correspond to one of the emotional and social competence categories and these indices include 15 individual sub-scales, corresponding to the measurement of the specific skills included in the model's competency categories.

According to BarOn, high performance on the Baron EQ-i means that this person has potential for high emotional and social functioning, that is, they are emotionally and socially intelligent (Bar-On, 1997; 2000).

In addition, the EQ-i gives four indicators useful in determining the validity of the test:

a) *Omission Rate* refers to the number of proposals that were not answered,

b) *Consistency Index* shows the degree of inconsistency of responses to a group of sentences referring to the same topic,

c) *Positive Impression* captures the tendency to give excessively positive evaluations, and

d) *Negative Impression* refers to the tendency to give overly negative responses.

The EQ-i has a built-in measurement correction criterion, based on the Positive and Negative Impression indices, and this is considered an important component of any self-reported psychometric tool because it reduces the bias of socially acceptable responses and strengthens the accuracy of the measurements. (Bar-On, 2000). Originally intended to assess emotional intelligence in adults and later developed for children and adolescents aged 7 to 18 years, the Bar-on Emotional Quotient Inventory: Youth Version (Bar-On EQ-i: YV) (BarOn, & Parker, 2000).

The test contains 60 sentences in the extended version and 30 questions in the short version, divided into 7 sub-scales corresponding to the 7 competence categories of the model.

The Pyramid of Emotional Intelligence: THE NINE-LAYER MODEL

Researchers Drigas & Papoutsi (2018) argue in their research that the development of emotional intelligence is based on the 9-level model, which model is based on the concepts of interpersonal and interpersonal meanings of (Gardner, 2000, 2011) and includes features from

both constructs (the EI Ability model and the Trait EI model) into a more hierarchical structure.

The emotional intelligence pyramid is a 9-level model:

1. Emotional Unity
2. Transcendence
3. Homogeneity of Feelings, Realization
4. Social Skills, Expertise in Emotions
5. Social Awareness, Empathy, Discrimination of Emotions
6. Self-management
7. Self-awareness
8. Recognition of emotions, perception-expression of emotions
9. Emotional stimuli

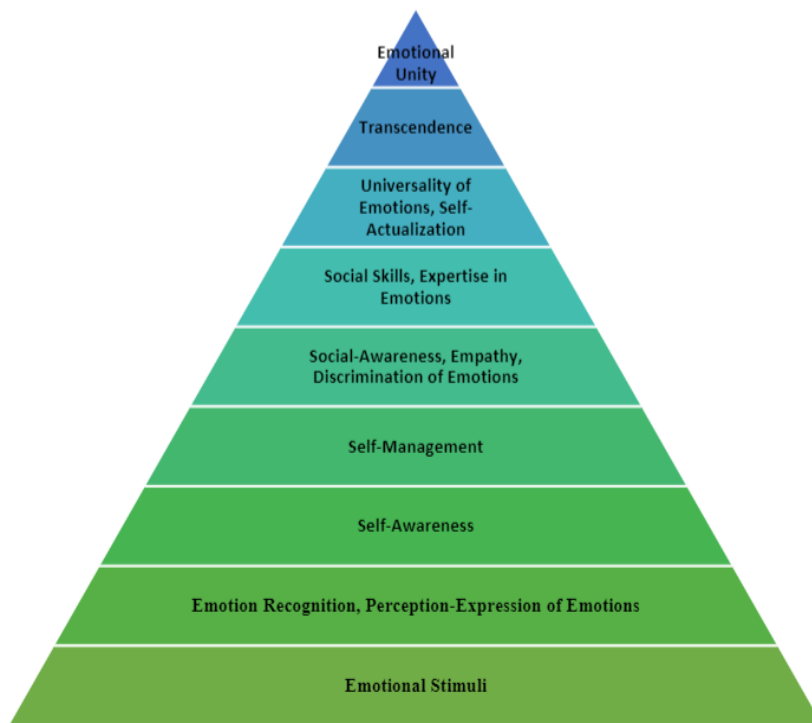


Figure 1. The emotional intelligence pyramid (9-layer model).

In more detail:

1. Emotional stimuli

Every day we receive from our environment information stimuli that will be integrated into categories because that way we will be able to understand them around us (Brosch, Pourtois, Sander, 2010) as the direct stimulus of emotions is a result of the processing of the sensory stimulus by the cognitive mechanisms (Mayer, et al., 1990; Isomura, T.; Nakano, 2016, Vuilleumier, 2005) that process this stimulus (Moors, 2010). Emotional stimuli form the base of the pyramid of emotional intelligence by pointing to its higher levels and giving priority to perception, they are more quickly located and gain access to conscious awareness (Mitchell, 2012; Okon-Singer , 2013) .

2. Recognition of Emotions

The 2nd level of the pyramid is the recognition of the emotions being expressed. The ability to express and recognize emotions in others is an important factor in human interaction and interpersonal relationships as it is a key element of human social-cognitive abilities (Lewis, et al., 2016) . positively with social competence and interaction as through it, the expressions of the

emotions of others are accurately decoded, usually through non-verbal channels (face, voice, sources), information about the emotional states of others (Rubin, et al., 2005).

3. Self-awareness

Self-knowledge Socrates mentions as having an awareness of your personality, strengths, weaknesses, thoughts, beliefs, motivations, and feelings (Ferrari, & Sternberg, 1998; Goleman, 1996; 2001) identified self-awareness as emotional consciousness, accurate self-esteem, and self-confidence. while (Crisp, &Turner, 2014) described self-awareness as a psychological state in which people are aware of their characteristics, feelings, and behaviors and its development is the first step in the development of EI as the lack of self-awareness prevents us from self-managing, we recognize and respond to the feelings of others (Boyatzis, et al.;, 2001). Its importance lies in the fact that self-awareness leads to the mastery of social awareness, self-management, and relationship management which are important factors of EI.

4. Self-management

The 4th pillar of the model is self-management as a skill that allows us to control our reactions to impulsive behaviors and emotions to become more flexible, more outgoing and receptive, and less judgmental and reactive towards others. By recognizing and accepting our emotions we can better manage the ability to articulate them productively (Boyatzis, et al., 2000) , even in negative emotions. (Goleman, 1996; 2001; Perez, et al., 2005; Fernández- Berrocal, 2006) argue that the second emotional intelligence (EQ) quadrant of self-management consists of nine key "key" elements: (1) emotional self-control; (2) integrity; (3) innovation and creativity. (4) initiative and reserve of action; (5) resilience. (6) driver achievement; (7) stress management; (8) realistic optimism and (9) purposefulness

5. Social Awareness -Empathy -The discrimination of emotions

The 5th pillar in the continuum of self-management competence is social awareness: the way of handling relationships, the ability to be aware of the feelings, needs, and concerns of others (Boyatzis, 2009) to understand different social situations and to effectively modify reactions and interactions. us against those around us. Social awareness consists of three abilities: Empathy, Organizational Awareness, and Service Orientation (Goleman, 2001) with empathy being the most important and basic EQ component of social awareness, directly related to self-awareness as it is the ability to "go into" putting ourselves in the other's shoes by understanding their feelings and thoughts "from their point of view" and taking an active role in concerns.

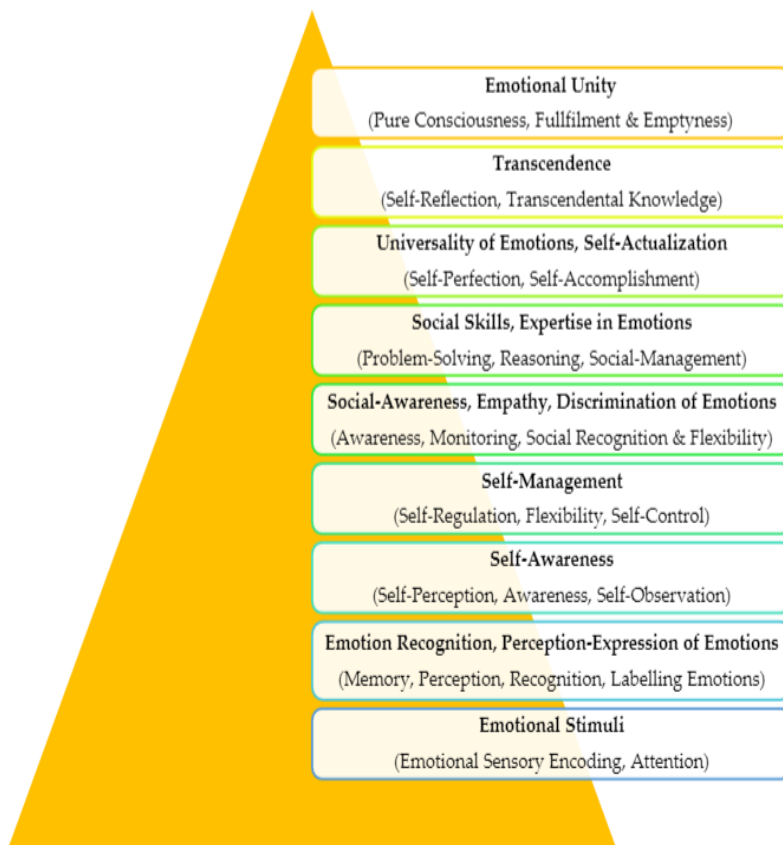


Figure 2. The cognitive and metacognitive processes to move from a layer to another.

Nine Layer Pyramid Model Questionnaire for Emotional Intelligence

The Questionnaire is an instrument for measuring emotional intelligence, developed according to The Pyramid of Emotional Intelligence: The Nine-Layer Model and hierarchically depicts the abilities and skills that people need to reach the top of emotional intelligence.

The Nine Layer Pyramid Model Questionnaire of Emotional Intelligence (Drigas, & Papoutsis. (2021) consists of 81 questions measuring different

levels of emotions, divided into 9 dimensions (9 questions each) that each represents a level of emotional intelligence. Answers are given on a 5-point Likert scale (1-Strongly Disagree, 2- Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree).

The nine-level pyramid model questionnaire for emotional intelligence can be used to assess EI and track the development of the nine levels of the pyramid. the scale as a reliable and valid instrument can be used both to measure the emotional

intelligence of adults and for use in scientific and practical purposes of many disciplines.

Conclusions

Emotional Intelligence is an important factor in the development and improvement of every person's life. Scientists, through the development of their theories as well as their measurement tools, emphasize the importance of EI in the development of people in their social, personal, and professional lives.

In order to improve EQ abilities, it is necessary to practice cognitive and metacognitive skills. Drigas & Mitsea (2021) argue that metacognition is one of the basic but also important success factors in the 21st century as it refers to a set of superior abilities, skills and self-regulation strategies, as the basic metacognitive functions are considered multidimensional and multi-level like the cognitive ones skills: attention, memory, perception, language and their development from lower to higher levels of metacognition leads to the transition of advanced forms of self-awareness.

Specifically, metacognition is defined as both the ability to self-control, self-regulate, and adapt one's thoughts, feelings, and behaviors, as well as the ability to recognize and distinguish between functional and dysfunctional mental or emotional states that one experiences in order to know the full range of one's strengths. Therefore it is clear that the focus of metacognition is considered to be self-control which is achieved only through the conscious awareness of one's physical, mental and emotional capabilities. (Drigas & Mitsea, 2021).

Also, the role of the IoT should also be emphasized, as various strategies and techniques can be incorporated in educational approaches via IoT. The most common strategies are metacognition, mindfulness, meditation and emotional intelligence cultivation. (Drigas, & Mitsea., 2019, 2020, 2021; Mitsea, Drigas, Mantas, 2021; Drigas, & Papoutsis., 2016, 2017, 2019, 2020; Papoutsis, Drigas, Skianis, 2019; Drigas, Pappas., 2017, 2019; Drigas, Karyotaki., 2014, 2015, 2016, 2017, 2019; Drigas, Karyotaki, Skianis., 2018; Kokkalia, Drigas, Economou, Roussos., 2019; Chaidi, Drigas., 2020; Angelopoulou, Drigas., 2021; Tourimpampa, Drigas, Economou, Roussos., 2018). as well as with environmental factors and nutrition (Chaidi, Drigas, 2020; Drigas, Karyotaki, 2019; Drigas, Karyotaki, Skianis, 2018; Karyotaki, Drigas, 2019), accelerate and improve more over the emotional intelligence development and educational practices and results.

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