

# PSYCHO-MANAGEMENT APPLICATION & IMPACT: AN APPLIED APPROACH

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# ABSTRACT

Emotional Intelligence (EI), and in particular, the domain of Empathy, is the foundation of Psycho-Management. The application of Emotional Intelligence – and Psycho-Management which is a new scientific area of research – is common in the business world. Understanding Emotional Intelligence, this thesis will look upon the working relationships between Manager and Subordinates in the workplace in Greece. Furthermore, a recent theory suggests that the emotional abilities of the individuals are considered to be as important as their professional competencies and skills, this thesis will investigate the impact of EI application on subordinates' satisfaction.

The aim of this thesis is to measure the domains of Emotional Intelligence and its impact on Managers and Employees, moreover, to propose a new management style which will aid productivity and performance and increase profitability.

**Keywords:** Psycho-Management; Emotional Intelligence; Management; Leadership; Neuroeconomics; Empathy;

### DEDICATION NOTE

This thesis is dedicated to my wife Dora Kalesi, whose support, reassurance and love encouraged me to complete my studies – and to my son Marios Lountzis who is the trigger for anything I choose to do in my life.

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# PREFACE

This thesis will investigate how the Emotional Intelligence can affect companies and organisations. The popularity of the topic has led researchers to examine its application and development in both individual and corporations' context. Corporate interest is strongly related to securing competitive advantage which can be sustained through empathy.

The organisational application of EI tends to be based on largely anecdotal case descriptions. The consensus view appears to be difficult to measure emotional intelligence and that no truly robust measure exists as of yet. The above-mentioned raises two questions:

Can emotional intelligence be substantiated in an organizational context?

Is it possible to use established robust measures of personality or competency to measure emotional intelligence, or some aspects of emotional intelligence? (Dulewicz & Higgs, 2000)

This thesis will critically evaluate the above questions, through the existing research and undertake primary research to reflect on the outcomes of the study.

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SECTION 1

# 1. INTRODUCTION

The mentality that the IQ is the basis for the development and growth for companies and organizations has been established for decades. However, researchers question the aforementioned theory as they noticed the existing literature gap for the perfect *success story* scenario. The IQ could predict the academic success sufficiently; however it is not able to predict the professional success.

One of the most important parameters for the success story scenario is the "Emotional Intelligence – EI". At the end of the  $20^{th}$  century, the EI has become a trend in the workplace, being applied by the managers in order to achieve higher performance within the company (Daniel Goleman, John Mayer, Peter Salovey etc.).

The main subject of this thesis is the meaning of the Emotional Intelligence (the human ability to understand, control and handle both his/ her and others emotions properly). The EI is unknown to the public but it is a theory, which companies and organisations have been introducing to deal with as the application of the EI develops advantages and benefits.

Based on this framework, the basic scope of this thesis is defined: 1.) a reference to the most important views of scientists, regarding Emotional Intelligence application 2.) EI measurement of the Managers/ Supervisors, the relevant domains which EI consists of, and its impact on the direct Subordinates/ Employees through questionnaires distributed to various Greek businesses.

The tendency of the human factor appears to be more important for some companies/organisations and while EI growth is a contemporary and new trend for employees' improvement as some of the basic reasons for this thesis assignment reveals through their emotional skills development. It is known that the companies are not only interested in keeping a good quality for their products and services but also for their personnel. If the companies have not been staffed with highly performing employees, there will be a relevant impact on the business. A company is not competitive for its product only. It has an added value if it is able to keep satisfied its personnel too. In addition, the company creates a secured work zone where the employees are able to work under less pressure.

The thesis approaches all the above as follows:

Initially, the scope of the thesis is defined through research structure and resources. There is a focus on the Emotional Intelligence – and its domains – as well as the impact it may have on the employees. The question which arises is:

Is EI actually affecting the businesses or are those affected by other factors?

Therefore, questionnaires developed and distributed to Greek companies and organisations and the results are evaluated in order to investigate the outcomes.

### SECTION 2

# 2.1 GENERAL PSYCHOLOGICAL HUMAN FEATURES

Although the human beings have common features, there are obvious variations in all areas of evolution, as a result every person to be unique and unrepeatable. People differ in their dimensions, muscle strength, pace and tone of movement, perception, reaction, cognitive functions, intensity of emotions, motivation of actions, hierarchy of values, etc. Conversely, there are some common characteristics as personality, sociability, morality, intelligence and, therefore, the emotional intelligence. However, the science of psychology that researches all the above considers that the above-mentioned characteristics differentiate people based on the intensity of which they appear in individuals' life (Paraskevopoulou I.N., 1985).

In the research of Zi-juan Cheng (Cheng & Hau, 2003) for if the students' subjective belief of whether intelligence is changeable, it was found that the above common characteristics are susceptible to being modified, to be cultivated –or not– to be cultured through the environment.

The external environment influences human's mentality and makes us react to those external stimuli. The set of reactions is called behaviour and it is significantly important in the interaction of the individual with the environment (Papageorgiou, 1975).

### 2.1.2 HUMAN BEHAVIOR

Behaviour can be defined as self-propelled movement producing a functional interaction between an animal and its environment, such as finding a mate or fleeing from a predator. Some organisms which lived in rapidly changing environments found it to their advantage to develop a mechanism which allowed their behavioural responses to be contingent on changing conditions. Brains have been selected to produce behaviour adaptive to an animal's circumstances because mechanisms ensuring the production of such responses would have been favoured by selection. The result has been regularized structures within animals that consistently produce adaptive behaviour. We call these 'behaviour production units' (BPUs).



Figure 1. Behaviour Production Model

In higher organisms like humans, behaviour production encompasses the development of behavioural proposals by BPUs, the selection of one proposal by some mechanism, and its execution by the peripheral nervous system. We consider perceptions to be inputs to BPUs, while motor commands are their output. (Aunger & Curtis, 2008)

The human behaviour encompasses both verbal and non-verbal messages. Verbal behaviour involves searching, compiling, creating, proclaiming, explaining and supporting ideas. Non-verbal behaviour refers to facial expressions, eyes, movements of the hands and feet, and the general appearance and "positioning" of the individual. The combination of both behaviours is essential. (Tsetsoni, 2003)

The types of behaviour can be categorized as below:

- Parental behavior: when someone behaves based on what is right or wrong. Behavior is distinguished by affection, sympathy, protection, discipline or dogmatism and control.
- Adult behavior: when someone collects information and uses them to draw conclusions and make decisions. This behavior is mainly based on thought, through emotion.
- Child behavior: behavior that is only affected by emotion and it is predominantly spontaneous.

The human behavior can be mild and dialectical and sometimes aggressive and intransigent depending on the situation the individual is facing and the goal he/her wants to achieve. Reaching that goal is the function of some competencies that the individual acquires in his interdependence with the social environment. In this case, it refers to skills that are important for individual progress and prosperity. (Stewart, 1992)

# 2.1.3 HUMAN SKILLS

"We cannot choose how many years we live, but we can choose how much life those years will have. We cannot control the beauty of our face, but we can control the expression on it. We cannot control life's difficult moments, but we can choose to make life less difficult. We cannot control the negative atmosphere of the world, but we can control the atmosphere of our minds. Too often, we try to choose to control things we cannot. Too seldom, we choose to control what we can...our attitude." (Maxwell, 1993)

People skills are patterns of behaviour and behaviour interactions, among people; it is an umbrella term for skills under three related set of abilities: personal effectiveness, interaction skills, and intercession skills (Thompson, 2002). Behaviour is influenced by motivations, emotions, experience and individual's environment.

The fundamental "human skills" are:

- Situation Analysis
- Setting a realistic goal
- Choice of appropriate behaviour
- Behavioural Control
- Shaping the behaviour of others
- Monitoring ours and others behaviour

Human skills are shaped as result of "face-to-face" situations, that is, through social contact and communication. This leads people to learn more about human behaviour and understand better the role of their own and others in the society they belong to. The above learning is achieved through the activation of a biopsychic process that is common to every human being and is called *intelligence* (Stewart, 1992).

# 2.2 INTELLIGENCE

As it has been already mentioned, the Emotional Intelligence is the basis of the Psycho Management application. In that respect, it is necessary a review to be conducted regarding the definition and aspects of what is intelligence and how many theories have been developed so far.

# 2.2.1 INTELLIGENCE: DEFINITION AND THEORIES

The definition of intelligence in accordance with the Oxforddictioonaries.com online dictionary, "intelligence" is the ability to acquire and apply knowledge and skills (OxfordDictionaries, 2017).

The psychologist Thorndike states that there are three types of intelligence (Bagshaw, 2000):

- 1. Abstract Intelligence: is measured in IQ test, that is, understanding and manipulating verbal and mathematical concepts.
- 2. Concrete Intelligence: is the ability of understanding and manipulating objects and shapes.
- 3. Social Intelligence: is the ability to understand and relate to people.

Guilford (Guilford, 1967) argued that there are dozens of aspects of intelligence in the structural framework of human intelligence, which includes 30 different dimensions of social intelligence. He suggested that the ability to interpret facial and body expressions, the ability to perceive human intentions, and the skill of following a series of events in social interaction are all subtle dimensions of social or behavioural intelligence.

Gardner defines intelligence as "the capacity to solve problems or to fashion products that are valued in one or more cultural setting". Using biological as well as cultural research, he formulated a list of seven intelligences. This new outlook on intelligence differs greatly from the traditional view which usually recognizes only two intelligences, verbal and computational (Gardner, 1998).

Gardner initially identified seven intelligences. However, in the mid-1990's, he concluded that an eighth intelligence, naturalistic intelligence, met the criteria for identification as an intelligence as well. Naturalistic intelligence allows individuals to identify and distinguish among products of the natural world such as animals, plants, types of rocks, and weather patterns. Gardner himself has speculated about an existential intelligence that reflects an individual's capacity for considering 'big questions' about life, death, love, and being. Individuals with high levels of this hypothesized intelligence might be likely to be found in philosophy departments, religious seminaries, or the ateliers of artists (Gardner, et al., 2017).



Figure 2. Nine (9) Types of Intelligence (Vital, 2014)

The nine intelligences Gardner defines are (Armstrong, 2009):

### 1. Naturalist Intelligence ("Nature Smart")

Designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations). This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef. It is also speculated that much of our consumer society exploits the naturalist intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and alike.

### 2. Musical Intelligence ("Musical Smart")

Musical intelligence is the capacity to discern pitch, rhythm, timbre, and tone. This intelligence enables us to recognize, create, reproduce, and reflect on music, as demonstrated by composers, conductors, musicians, vocalist, and sensitive listeners. Interestingly, there is often an affective connection between music and the emotions; and mathematical and musical intelligences may share common thinking processes. Young adults with this kind of intelligence are usually singing or drumming to themselves. They are usually quite aware of sounds others may miss.

### 3. Logical-Mathematical Intelligence ("Number/Reasoning Smart")

Logical-mathematical intelligence is the ability to calculate, quantify, consider propositions and hypotheses, and carry out complete mathematical operations. It enables us to perceive relationships and connections and to use abstract, symbolic thought; sequential reasoning skills; and inductive and deductive thinking patterns. Logical intelligence is usually well developed in mathematicians, scientists, and detectives. Young adults with lots of logical intelligence are interested in patterns, categories, and relationships. They are drawn to arithmetic problems, strategy games and experiments.

### 4. Existential Intelligence

Sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why do we die, and how did we get here.

### 5. Interpersonal Intelligence ("People Smart")

Interpersonal intelligence is the ability to understand and interact effectively with others. It involves effective verbal and nonverbal communication, the ability to note distinctions among others, sensitivity to the moods and temperaments of others, and the ability to entertain multiple perspectives. Teachers, social workers, actors, and politicians all exhibit interpersonal intelligence. Young adults with this kind of intelligence are leaders among their peers, are good at communicating, and seem to understand others' feelings and motives.

#### 6. Bodily-Kinesthetic Intelligence ("Body Smart")

Bodily kinesthetic intelligence is the capacity to manipulate objects and use a variety of physical skills. This intelligence also involves a sense of timing and the perfection of skills through mind-body union. Athletes, dancers, surgeons, and craftspeople exhibit well-developed bodily kinesthetic intelligence.

#### 7. Linguistic Intelligence ("Word Smart")

Linguistic intelligence is the ability to think in words and to use language to express and appreciate complex meanings. Linguistic intelligence allows us to understand the order and meaning of words and to apply meta-linguistic skills to reflect on our use of language. Linguistic intelligence is the most widely shared human competence and is evident in poets, novelists, journalists, and effective public speakers. Young adults with this kind of intelligence enjoy writing, reading, telling stories or doing crossword puzzles.

#### 8. Intra-personal Intelligence ("Self Smart")

Intra-personal intelligence is the capacity to understand oneself and one's thoughts and feelings, and to use such knowledge in planning and directing one's life. Intra-personal intelligence involves not only an appreciation of the self, but also of the human condition. It is evident in psychologist, spiritual leaders, and philosophers. These young adults may be shy. They are very aware of their own feelings and are self-motivated.

#### 9. Spatial Intelligence ("Picture Smart")

Spatial intelligence is the ability to think in three dimensions. Core capacities include mental imagery, spatial reasoning, image manipulation, graphic and artistic skills, and an active imagination. Sailors, pilots, sculptors, painters, and architects all exhibit spatial intelligence. Young adults with this kind of intelligence may be fascinated with mazes or jigsaw puzzles, or spend free time drawing or daydreaming.

According to Stemberg (Sternberg, 1997) the triarchic theory of human intelligence embraces that intelligence comprises three aspects: analytical, practical, and creative. All three of these aspects are keys to managerial intelligence. According to this theory, the intelligent person is someone who goes beyond just any particular static profile of intellectual skills. Rather, successfully intelligent people are those who have the dynamic abilities to (1) figure out their strengths, (2) figure out their weaknesses, (3) capitalize on their strengths, and (4) compensate

for or repair their weaknesses. Practical, creative, and analytical intelligence were defined as the ability to solve every-day problems and adapt to new situations, insight and the ability to formulate new ideas, and the ability to think critically. Sternberg et al. (2000) claimed that STAT is not a measure of general intelligence as assessed by conventional intelligence tests (e.g. IQ tests). Further, Sternberg et al. (2000) argue that STAT is independent of measures of general intelligence (Koke & Vernon, 2003).

As we have already seen, there is a variety of intelligences. An intelligence must meet several standard criteria before it can be considered scientifically legitimate. An intelligence must meet stringent criteria in order to be judged as a true intelligence. These criteria can be divided into three fairly distinct groups: conceptual, correlational and developmental. The first, conceptual criteria, includes that intelligence must reflect mental performance rather than simply preferred ways of behaving, or a person's self-esteem, or non-intellectual attainments; moreover, mental performance should plainly measure the concept in question, i.e. emotion-related abilities. The second, correlational criteria, describe empirical standards: specifically, that an intelligence should describe a set of closely related abilities that are similar to, but distinct from, mental abilities described by already-established intelligences. The third, developmental criterion, states that intelligence develops with age and experience (Mayer, et al., 2000).

The possibility that there are one or more additional classes of intelligence, beyond verbal and performance intelligence has long intrigued researchers. The identification of a class of intelligence, such as verbal or performance, however, does not occur all at once. Social intelligence was proposed as a third member of the verbal/performance grouping earlier in the century; it was defined as "the ability to understand men and women, boys and girls, to act wisely in human relations". Cronbach (1960) concluded that social intelligence could not be distinguished from verbal intelligence (Mayer, et al., 2000).

Emotional intelligence represents an alternative grouping of tasks to social intelligence. On one hand, emotional intelligence is broader than social intelligence, including not only reasoning about the emotions in social relationships, but also reasoning about internal emotions that are important for personal (as opposed to social) growth. On the other hand, emotional intelligence is more focused than social intelligence in that it pertains primarily to the emotional (but not necessarily verbal) problems embedded in personal and social problems (Mayer, et al., 2000). Emotional intelligence will be detailed in next chapter.

It is obvious that the EI includes two terms: Emotions and Intelligence. Having made a brief for what the Intelligence is and how it is defined, it would be helpful to make a relevant brief for the Emotions.

### 2.3 EMOTIONS

"Οἶον καὶ φοβηθῆναι καὶ θαρρῆσαι καὶ ἐπιθυμῆσαι καὶ ὀργισθῆναι καὶ ἐλεῆσαι καὶ ὅλως ἡσθῆναι καὶ λυπηθῆναι ἔστι καὶ μᾶλλον καὶ ἦττον, καὶ ἀμφότερα οὐκ εὖ· τὸ δ' ὅτε δεῖ καὶ ἐφ' οἶς καὶ πρὸς οῦς καὶ οὖ ἕνεκα καὶ ὡς δεῖ, μέσον τε καὶ ἄριστον, ὅπερ ἐστὶ τῆς ἀρετῆς. Αριστοτέλης, «Ηθικά Νικομάχεια, Βιβλίο ΙΙ, Ενότητα 9,1109a26-29»

> Anybody can become angry - that is easy, but to be angry with the right person and to the right degree and at the right time and for the right purpose, and in the right way – that is not within everybody's power and is not easy." Aristotle, "Nicomachean Ethics, Book II, Ch. 9, 1109a26-29" (Kopidakis, et al., 2016)

#### What is emotion?

According to Cambridge Dictionary (CambridgeDictionary, 2017) the emotion is defined as *a* strong feeling such as love or anger, or strong feelings in general. There is not a general consensus among scholars in the literature on the definition of emotion. Sometimes it is defined as a complex state of feeling that results in physical and psychological changes that influence thought and behaviour. This definition makes sense, however, it seems not to be technical as it is defined as a state of feeling. Defining emotion in terms of feeling does not provide valuable information about the dynamics and features of the emotion itself. Moreover, some differences between the two terms "feeling" and "emotion" is not considered in it.

The simplest theory of emotions, and perhaps the theory most representative of common sense, is that emotions are simply a class of feelings, differentiated from sensation and proprioception by their experienced quality (Sousa, 2014).

Another definition for the emotions was given by Gross which defines them as "adaptive behavioural and physiological response tendencies that are called forth directly by evolutionarily significant situations" (Chi-Sum & Law, 2002).

Based on the aforementioned definition, Gross generated a model which suggests that emotions may be regulated either by manipulating the input to the system (antecedent-focused emotion regulation) or by manipulating its output (response-focused emotion regulation). Within these two broad classes of emotion regulation, more fine-grained distinctions may be made. For example, antecedent-focused emotion regulation includes *situation selection*, in which one approaches or avoids certain people or situations on the basis of their likely emotional impact; *situation modification*, in which one modifies an environment so as to alter its emotional impact; *attention deployment*, in which one turns attention toward or away from something in order to influence one's emotions; and *cognitive change*, in which one revaluates either situation one is in or one's capacity to manage the situation so as to alter one's emotions. Response-focused emotion regulation also includes a multiplicity of types, such as strategies that intensify, diminish, prolong, or curtail on-going emotional experience, expression, or physiological responding (Gross, 1998).



Figure 3. A consensual process model of emotion that highlights two major classes of emotion regulation (Gross, 1998)

Emotions are viewed as having evolved through their adaptive value in dealing with fundamental life-tasks. Each emotion has unique features: signal, physiology, and antecedent events. Each emotion also has characteristics in common with other emotions: rapid onset, short duration, unbidden occurrence, automatic appraisal, and coherence among responses. These shared and unique characteristics are the product of our evolution, and distinguish emotions from other affective phenomena (Ekman, 1992).

Paul Ekman and Richard Davidson (Ekman 1984, 1992a, b. Ekman, & Davidson, 1994) led to the summary of four main emotions (i) fear, (ii) anger, (iii) sadness and (iv) delight. According to Ekman "*each emotion prepares the body for a completely different kind of reaction*" (Ekman & Davidson, 1994).

However, in accordance with the Aristotle's (Enos, 1996) list of emotions (Table 1) encompasses fourteen emotions: anger, mildness, love (or friendship), enmity (or hatred), fear, confidence, shame, shamelessness, benevolence (favour or gratitude), pity, indignation, envy, emulation and contempt.

Emotion	Description	
Anger	is usually rooted in some perceived wrong. You can be angry on your own behalf, or angry on behalf of those you care about. Anger is a natural reaction, but can develop into other worse emotions if not dealt with in a healthy way. Spite, hatred, and malice or a need for revenge are often born of anger, and can cause destructive behaviour.	
Mildness	occurs generally as a healthy channelling of anger into a more productive emotion. If anger is yelling and throwing things, mildness is making a point in a moderate voice without letting the burst of anger affect ones overall happiness or state of mind – it's controlled and directed in a productive manner.	
Love (or Friendship)	is the wholehearted wish towards the well-being of another person, and the willingness to inconvenience oneself or sacrifice in order to secure their happiness. Love can be manifested in many different ways.	
Enmity (or hatred)	is different from anger in that it requires no cause; instead of a perceived affront, the trigger may be as simple as race, colour or creed – and like anger, enmity can swiftly turn to malice, spite or hatred.	
Fear	is one of the strongest emotions; it is inextricably linked to the will to survive. However, allowed free rein, fear can effectively cripple any person - leaving them ineffectual and feeling trapped in a box of their own making. Conquering fear can lead to a much healthier psyche, and improve overall life as well.	
Confidence	is the reverse of fear $-$ it is often accompanied by a mental picture of an individual's success, and is closely related to hope and even faith. A feeling of security can be born of self-confidence, as if the state of being confident can literally push fears and their causes away.	
Shame	is one of the most important in the list of emotions – it reflects how we feel about evils in our lives (whether committed by us or perpetrated on us by others) and is closely linked to self-esteem, self-confidence and self-worth. We often fear that the things we are ashamed of will discredit us in the eyes of those around us.	
Shamelessness	Describes the state of a person who seems uncaring about evil they may do or a total disregard of what other people may think of them. In the one case, you have a dangerous person not bound by moral code; in the other, a 'free spirit'.	
Benevolence (favor or gratitude)	is comprised of a feeling of obligation – the individual will perform acts of kindness, but without real feeling or connection to the recipients of their help. Benevolence is simply an act deemed kind, although the person acting may not feel kind.	
Pity	is a strong emotion, and is often mistakenly confused with love. One feels pity for those wrongly taken advantage of, or injured through no fault of their own. Pity often results in action taken to relieve pain.	
Indignation	is usually an affronted feeling – it is not as strong as anger, although it can blossom into anger. Indignation usually results from instances in which an individual feels they have been unfairly treated, taken advantage of, or lied to.	
Envy	is yet stronger than indignation, and can turn into enmity if not handled correctly. Envy is the feeling of irritation that someone else has something which you do not; even if you would not desire it in any other circumstance.	
Emulation	is the final emotion. It is the opposite of contempt and envy, and encompasses the desire to improve oneself and gain that which others have already achieved.	
Contempt	is the feeling one who perceives themselves as superior has towards 'lesser' people around him or her. They may view anyone with less intellect, good looks or possessions as beneath them.	

# 2.4 EMOTIONAL INTELLIGENCE

Emotional Intelligence is *the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships* (Goleman, 1998). This is one of the many definitions included in the global literature. This definition is extracted by Goleman's well-known book "Working with Emotional Intelligence".

However, it would be useful to reference those most well-known definitions about the EI for the completeness of research. The worldwide literature includes a high number of definitions. The EI is a multifaceted issue as a result the approaches for defining it varies. All definitions for EI tend to be complementary to each other, covering different aspects of it. Therefore, most researchers analyse emotional intelligence in the following four thematic areas: the perception, the understanding, the control, and the use of emotion.

According to Cambridge Dictionary (CambridgeDictionary, 2017), the EI is defined as "the ability to understand the way people feel and react and to use this skill to make good judgments and to avoid or solve problems".

Martinez (1997) offered a more concise definition which refers to emotional intelligence as being an array of non-cognitive skills, capabilities and competencies that influence a person's ability to cope with environmental demands and pressures.

Salovey and Mayer (1990) defined EI as the subject of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions (Chi-Sum & Law, 2002). Same researchers, in 1995, define emotional intelligence as the capacity to process emotional information accurately and efficiently, including that information relevant to the recognition, construction, and regulation of emotion in oneself and others (Quebbeman & Rozell, 2002). In 1997, Salovey and Mayer define emotional intelligence as the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth (Fatt, 2002). Three years later, in collaboration with Caruso, they updated the definition for EI as one's ability to accurately identify, appraise, and discriminate among emotions in oneself and others, understand emotions, assimilate emotions in thought, and to regulate both positive and negative emotions in self and others (Wolff, et al., 2002).

Goleman provides a useful definition of the construct of emotional intelligence, which is about (Dulewicz & Higgs, 2000):

- Knowing what you are feeling and being able to handle those feelings without having them swamp you;
- Being able to motivate yourself to get jobs done, be creative and perform at your peak; and
- Sensing what others are feeling, and handling relationships effectively.

From Bar-On's point of view "emotional-social intelligence is a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others, relate with them, and cope with daily demands" (Fernández-Berrocal & Extremera, 2006).

Cooper and Sawaf (1997) define emotional intelligence as the ability to sense, understand, and effectively apply the power and acumen of emotions as a source of human energy, information, connection, and influence (Cooper & Sawaf, 1997).

Weisinger (1998) defined emotional intelligence as "the intelligent use of emotions: you intentionally make your emotions work for you by using them to help guide your behaviour and thinking in ways that enhance your results" (Weisinger, 2006).

Singh (2003) proposed three dimensions of Emotional Intelligence. He defines EI as "the ability of an individual to appropriately and successfully respond to a vast variety of emotional stimuli being elicited from the inner self and immediate environment. Emotional intelligence constitutes three psychological dimensions – emotional competency, emotional maturity and emotional sensitivity – which motivate an individual to recognize truthfully, interpret honestly and handle tactfully the dynamics of human behaviour" (Singh, 2003).

El has been defined by Lames (2004) as the ability of a person to use emotions as a guiding tool for interpersonal effectiveness in his or her social environment. According to Murthy (2004), El is the ability to choose the right feelings appropriate to a given situation and the skill to communicate these feelings effectively. It is the emotional competency which includes awareness of our own emotions, ability to identify and empathize with others' feelings, understanding the impact of one's emotions on others, and sensitivity to cultural sanctions for expression of emotions that constitutes El (Mohanadasan, 2014).

### 2.4.1 EMOTIONAL INTELLIGENCE – THEORIES/MODELS

It is understandable from the previous chapter that the Emotional Intelligence is researched the last decades and the scientists have not found a theory and model that could be acceptable from the Scientific Community. Hence, other dominant theories will be mentioned below:

### Bar-On's Theory

Reuven Bar-On (1988) developed the first attempt to assess EI in terms of a measure of wellbeing. In his doctoral dissertation he used the term emotional quotient ("EQ"), long before it gained widespread popularity as a name for emotional intelligence and before Salovey and Mayer had published their first model of emotional intelligence. In accordance with publication in 2000, Bar-On defines EI in terms of an array of emotional and social knowledge and abilities that influence our overall ability to effectively cope with environmental demands. This array includes:

- 1. The ability to be aware of, to understand, and to express oneself;
- 2. The ability to be aware of, to understand, and to relate to others;
- 3. The ability to deal with strong emotions and control one's impulses; and
- 4. The ability to adapt to change and to solve problems of a personal or a social nature.

The five (5) main domains in his model are:

- ✓ Intrapersonal skills
- ✓ Interpersonal skills
- ✓ Adaptability
- $\checkmark$  Stress management, and
- ✓ General mood

(Cherniss & Goleman, 2001)

### Salovey & Mayer's Theory

Salovey and Mayer's original model, in 1990, identifies emotional intelligence as the "ability to monitor one's own and other's feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and action". Citing a need to distinguish emotional intelligence, abilities from social traits or talents, Salovey and Mayer evolved a model with cognitive emphasis. It focused on specific mental aptitudes for recognizing and marshalling emotions (for example, knowing what someone is feeling is a mental aptitude, whereas being outgoing and warm in behaviour). A comprehensive EI model, they argued, must include some measure of "thinking about feeling", an aptitude lacked by models that focus on simply perceiving and regulating feelings.

Their current model is particularly cognitive in focus. In this model, emotional intelligence comprises four (4) tiers of abilities that range from basic psychological processes to more complex processes integrating emotion and cognition. In the first tier of this "mental ability model" is the complex of skills that allow an individual to perceive, appraise, and express emotions. Abilities include identifying one's own and other's emotions, expressing one's own emotions, and discriminating the expressions of emotion in others. The second tier abilities comprise using emotions to facilitate and prioritize thinking: employing the emotions to aid in judgment, recognizing that mood swings can lead to a consideration of alternative viewpoints, and understanding that a shift in emotional state and perspective can encourage different kinds of problem solving. In the third tier are skills such as labelling and distinguishing between emotions (differentiating liking and loving, for instance), understanding complex mixtures of feelings (such as love and hate), and formulating rules about feelings: for example, that anger often gives way to shame and that loss is usually accompanied by sadness. The fourth tier of the model is the general ability to arrange the emotions in support of some social goal. In this more complex level of emotional intelligence are the skills that allow individuals to selectively engage in or detach from emotions and to monitor and manage emotions in themselves and in others.

This model is developmental: the complexity of emotional skills grows from the first tier to the fourth. However, all the mental aptitudes they describe fit within the general matrix of self-other recognition or regulation.

(Cherniss & Goleman, 2001)

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Figure 4. Emotional abilities in accordance with Salovey & Mayer's model (Quebbeman & Rozell, 2002)

### Goleman's Theory

Goleman states that EI refers to the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves and in our relationships. Relationship management provides inspiration, potential to influence, and the ability to help leaders grow in managing conflict, and emotional competency.

In 1995, Goleman identifies four (4) EI concepts that are related to relationship management:

- ✓ self-awareness,
- ✓ self-management,
- $\checkmark$  social awareness, and
- ✓ relationship management.

In 1998, he creates an EI-based theory of performance containing a set of guidelines for effectiveness and competencies for individual worker development. He claims EI is the capability to understand and control our emotions and feelings, and that this capability create effective, persuasive leaders. He also identifies five (5) EI domains, which include:

- ✓ Self-awareness
- ✓ Self-regulation
- ✓ Motivation
- ✓ Social skills, and
- ✓ Empathy

The five (5) domains include twenty-five (25) competencies and consist of personal competence and social competence. Self-awareness is the ability to recognize and understand our moods and emotions and the effect of these emotions on others. Self-management is the ability to control emotions and reactions of oneself. Motivation is the ability to face challenges

and be optimistic. Social skills are the ability to maintain good relationships and build a network. Empathy was introduced into English from the Greek word "empatheia", feeling into, a term used initially by theoreticians of aesthetics to describe the ability to perceive the subjective experience of another person. Emotional competence is a learned ability based on EI that leads to effective performance at the work place (Namrata, et al., 2015).

	Self	Other
	(Personal Competence)	(Social Competence) Social Awareness
Recognition	<ul> <li>Emotional self-awareness</li> <li>Accurate self-assessment</li> <li>Self-confidence</li> </ul>	<ul> <li>Empathy</li> <li>Service orientation</li> <li>Organizational awareness</li> </ul>
	Self-Management	Relationship Management
Regulation	<ul> <li>Emotional self-control</li> <li>Trustworthiness</li> <li>Conscientiousness</li> <li>Adaptability</li> <li>Achievement drive</li> <li>Initiative</li> </ul>	<ul> <li>Developing others</li> <li>Influence</li> <li>Communication</li> <li>Conflict management</li> <li>Visionary leadership</li> <li>Catalyzing change</li> <li>Building bonds</li> <li>Teamwork and collaboration</li> </ul>

Table 2. A Framework of Emoti	ional Competencies
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Table 2 presents the current version of EI framework. Twenty (20) competencies nest in four clusters of general EI abilities. The framework illustrates, for example, that we cannot demonstrate the competencies of Trustworthiness and Conscientiousness without mastering the fundamental ability of Self-Management or the competencies of Influence, Communication, Conflict Management, and so on without a handle on Managing Relationships. This model is a refinement of model in 1998 as described. As it was mentioned, that earlier framework identified five (5) domains, or dimensions, of emotional intelligence that compromised twenty-five competencies. Three dimensions – Self-Awareness, Self-Regulation, and Motivation – described personal competencies, that is, knowing and managing emotions in oneself. Two dimensions – Empathy and Social Skills – described social competencies, that is, knowing and managing emotions in others. The current model reflects recent statistical analyses by Richard Boyatzis that supported collapsing the twenty-five competencies into twenty, and the five domains into the four seen here; Self-Awareness, Self-Management, Social Awareness, and Relationship Management (Cherniss & Goleman, 2001).

#### CARES Theory

Mike Bagsaw (Bagshaw, 2000) defined five of competencies having given the mnemonic abbreviation CARES as below:

Creative tension	This involves managing the tension between the present and creating the future. It involves being able to defer immediate rewards for future goal achievement, and investing time not to create future.
Active choice	This involves making decisions to act when faced with actually viable options, and living with the decisions you have made. It involves working with your feelings to make choices. It is being proactive and being overly anxious about the risks you have taken.
Resilience under pressure	This involves managing your own stress reactions and destructive feelings and dealing with upsets. It means reframing how you view adversity, and giving yourself time to relax and renew your energy stores.
Empathic relationships	This involves investing in understanding before being understood, communicating authentically and assertively, and being able to develop relationships of trust and credibility quickly.
Self-awareness and self-control	This involves being aware of your inner feelings, being honest with yourself. It is recognizing when your reactions are exaggerated and non-productive and exercising self-control. It also involves feeling good about yourself and appreciating your personal qualities

Table 3. The CARES framework for EI

#### Cooper & Sawaf Theory

Cooper and Sawaf, in 1997, put forth the four (4) cornerstones of emotional intelligence at the executive level (Quebbeman & Rozell, 2002):

- ✓ Emotional literacy: involves the knowledge and understanding of one's own emotions and how they function;
- ✓ Emotional fitness: involves trustworthiness and emotional hardiness and flexibility;
- ✓ Emotional depth: involves emotional growth and intensity, and
- ✓ Emotional alchemy: involves using emotions to discover creative opportunities.

### Lane's Theory

Lane and colleagues, in 1990, proposed a theory with which emotional experience is believed to become more differentiated and integrated with development, such that the representations of emotional states move from implicit to explicit forms. Lane et al.(1990) suggested five levels of emotional awareness, each level representing a hierarchical increase in differentiation and integration from the previous level. The first level of awareness refers to a lack of emotional response (a typical answer might be "I'd feel confused"). Level 1 refers to an awareness of bodily sensations ("I'd feel tired"), level 2 to awareness of relatively undifferentiated emotional states ("I'd feel bad"), level 3, individual feelings ("I would feel angry"), level 4, emotional blends ("I would feel both happy and sad"), and level 5, blends in both self and others, and an ability to clearly differentiate feelings in the self from those in another ("I would feel happy and sad, and the other person would feel fearful and angry") (Ciarrochi, et al., 2003).

### Theories Comparison

A similarity pattern that is observed is that most of the theories refer to emotional skills of the person belonging to the categories of emotional abilities that relate to the recognition of emotions in themselves and others. There is also a connection between the theories of Gardner and Goleman, observing that the fields of self-awareness and self-management of the Goleman's theory are part of what Gardner calls intrapersonal intelligence, while the fields of social awareness and management of interpersonal relationships are part of the interpersonal intelligence.

While there are similarities and continuities between Salovey and Mayer's (1990, 1994) Mayer and Salovey (1993) earlier research and the work of other authors on emotional intelligence (Bar-On, Goleman), there are some important differences: For example, Goleman's construct of emotional intelligence includes motivation and empathy, factors that Mayer, Salovey, & Caruso, in 2000, consider to extend beyond the confines of emotional intelligence. In a similar fashion, Bar-On includes a diverse range of factors including assertiveness, self-esteem, and independence. These factors, however, clearly go beyond the scope of Mayer and Salovey's definition of emotional intelligence (Jordan, et al., 2002).

Another difference that should be looked upon is Bar-On's theory, in contrast with other researchers, which communicates separately about emotional intelligence and social intelligence, considering the first as a set of personal skills related to one's own self, while the second as a set of skills related to interpersonal relationships.

### 2.5 HUMAN BRAIN: NEUROSCIENCE PERSPECTIVE

Emotional Intelligence as bio – psychological function of human being presupposes a healthy background for its expression. Human beings as psychosomatic units are expressed as one system which motivates physical and mental mechanism complexes that are related to each other. In this chapter, reference is made to the structure and functioning of the brain in relation to the emotion, so that it is understood, from the brain the feelings that emerge and how they affect the biological and psychic world of the individual, so that their desire to lead objectively to the mental balance that is the ultimate goal of an emotionally intelligent individual.

### 2.5.1 THE BRAIN

The brain plays a central role in the neurosciences. It is not the only focus of the nervous system, as all nerves in the body play crucial part and there is also a growing body of research into embodied cognition: how thought can be grounded in the body?; and how the body can influence cognition? The brain, we can see as the central processing unit of human beings. It is the seat of consciousness, of memory and hence also our feeling of "self" on top of our sensory and cognitive interaction with the world. The brain is therefore, in no short part, what we are. Its importance in the organism itself can also be seen by the amount of power and energy it uses:



Figure 5. Three-layer model of the brain (Ghadiri, 2011)

The brain is a complex organ with 100 billion neurons, brain cells that are connected together in different formations and regions. In fact this seems complex as an illusion to believe we can understand the details and their subsequent influences on the rest of the brain and organism as a whole. Indeed it has been calculated that the number of possible connections in the brain is greater than the number of atoms in the universe. This may indeed be just popular science but it demonstrates, more than anything else, the sheer complexity of the brain. Yet when we look at the brain we can clearly see different structures and forms and we start to see that there is structure in the complexity. Like a country with millions of people who live in different households and in different villages and towns which are connected in different ways with paths, roads and highways. So it is with our brain. We can also see a general grouping of structures that simplifies the view of the brain even further. Though technically speaking neurobiologists speak of five regions, the three-layer model from the American brain researcher MacLean (see figure 5) is one that is simple and generally speaking closely linked to reality. Though, we note, in the literature there is some discrepancy as to what structures actually belong to each, we can think of the brain in terms of:

- o The brain stem
- The limbic system
- The cerebral cortex

(Ghadiri, 2011)

The human brain is divided into four sections, each of which performs many specialized functions: the frontal, the occipital, the parietal, and the temporal. These lobes are linked-communicating with each other through links called projections. The most well-known mapping of the brain regions is given by the Brodmann map, named after Korbinian Brodmann

(1909), which divides the regions on the basis of their cellular and laminar structure. (Brodmann & Garey, 2006)



### 2.5.2 THE GREAT LIMBIC SYSTEM & EMOTIONAL MOTOR SYSTEM (Nieuwenhuys, 1996)

Information related to events in the external world enters the brain via the olfactory, somatosensory, auditory and visual systems. This information from the extra personal space is subjected to a refined analysis in the sensory association and multimodal cortices and transferred from there to the prefrontal association cortex. The latter is concerned, amongst other things, with the planning and sequencing of complex and skilled behaviour aimed at manipulation of the external world. The premotor and motor cortices and the large pyramidal tract are instrumental in the planning and execution of the movements related to this behaviour. The motor and premotor cortices are supported by two large control systems, the extrapyramidal and the cerebellar.

The sensory and motor systems involved in the cognitive-motor cycle just sketched and the control systems attached to it occupy grossly the lateral part of the brain. All of these systems are mainly composed of discrete and their fibre connections are compact and well-militated.

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Figure 7. Medial view of the human brain (Nieuwenhuys, 1996)<sup>1</sup>

The medial part of the brain harbours a neural entity which structurally, chemically as well as functionally differs considerably from the classical systems mentioned above. This entity is designed here as the greater limbic system (Fig. 6 & 7). It consists of an array of highly interconnected structures, extending from the medial wall of the telencephalon to the caudal rhombencephalon, which is concerned with specific motivated or goal-oriented behaviours, directly aimed at the maintenance of homeostasis and at the survival of the individual (organism) and of the species. All of these specific behaviours include integrated endocrine, autonomic and skeletomotor responses, and the latter pass generally through three sequential phases: initiation, procurement, and consummatory. Within the framework of these specific tasks the greater limbic system influences, by means of sets of monoaminergic neurons, the level of excitability of its own neuronal network, of its effector mechanisms and of virtually all other parts of the brain. By this general activation the organism is brought to a high level of alertness and prepared for maximal physical action.

The greater limbic system is characterized by the presence of (1) enormous amounts of thin, unmyelinated varicose fibers, participating in the formation of numberless "open-line" conduction channels, (2) numerous diffuse and inconspicuous grisea, (3) specialized chemosensitive loci (CVOs), (4) large numbers of neurons receptive for estrogen and androgen hormones, and (5) an extraordinary amount and diversity of neuropeptides. This wealth of neuropeptides indicates that the way in which the GLS operates is distinctly different from other parts of the brain. Many neuropeptides have been demonstrated to play a key role in the regulation of specific behavioural responses. Moreover, there is evidence suggesting that these

<sup>&</sup>lt;sup>1</sup> Medial view of the human brain. The position of the gyrus cinguli, the gyrus parahippocampalis (GPH), the septum (S), the fornix + the stria terminalis (f+st), the hypothalamus (Hy), the hippocampus (H), the amygdala (A), the core + the lateral paracore (C+LPC) and the median paracore (MPC) are diagrammatically indicated.

substances within the domain of the GLS are involved in non-synaptic or paracrine interneuronal communication.



Figure 8. Limbic circuitry (Nieuwenhuys, 1996)<sup>2</sup>

The concept of an emotional motor system has been recently enunciated by Holstege (1992). It emphasizes that within the brainstem assemblies of thin, descending fibers are involved in the elaboration of emotional behaviours (like crying and laughter in man, and vocalization in animals), and that these fibers are completely distinct from those forming the voluntary somatomotor systems. The emotional motor system is entirely embedded in the greater limbic system and forms the principal effector apparatus of the latter. Its fibers originate aminly from

<sup>&</sup>lt;sup>2</sup> Abbreviations: A, amygdala; A1,A2,A5,A7, noradrenergic cell groups; A6, the noradrenergic locus coeruleus;A6sc, the noradrenergic locus subcoeruleus; be, brachial efferent fibers; BNST, bed nucleus of stria terminalis; C1, C2, adrenergic cell groups; f, fornix; fld, fascisulus longitudinalis dorsalis; fmt, fascisulus medialis telencephali; H, hippocampus; Hy, hypothalamus; L, L-region of Holstege et al. (1986); LT, lateral pontine tegmentum; M, M-region of Holstege et al. (1986); PAG, periaquaducta; gray; S, septum; se, somatic efferent fibers; ve, visceral efferent fibers; 1, loci for defense reactions, vocalization and lordosis; 2, mesencephalic attack site; 3, pontine attack site; 4, mesencephalic locomotor region; 5, area reticularis superficialis ventrolaterialis or "lateral medulla", implicated in cardiovascular and respiratory regulation; 6, dorsal respiratory group; 7, ventral respiratory group; 8, Kolliker-Fuse nucleus: pneumotaxic center; 9, dorsomedial swallowing area; 10, ventrolateral swallowing area; 11, pontine swallowing area; 12, nucleus retroambirguus, containing loci for vocalization and lordosis.

the central nucleus of the stria terminalis, and the lateral hypothalamic area. Most likely these fibers are not only involved in emotional behaviour per se, but also in specific motivated behaviours and their emotional correlates. According to Hostege (1991,1992) the emotional motor system encompasses in addition fiber systems descending from the medial hypothalamus and midbrain which, via monoaminergic cell group in the brainstem, exert a global influence on the level of activity of spinal sensory and motor neurons. Within the concept of an emotional (-motivational) motor system there is ample room for further differentiation.

The greater limbic system interacts with many other part of the central nervous system. All sensory systems have to access to it and it is in receipt of substantial direct interoceptive, nociceptive and olfactory projections. A large fiber system carrying interoceptive and nociceptive information ascends through the limbic brainstem area to higher limbic domains. This fiber system originates mainly from the spinal and medullary dorsal horn and from the nucleus of the solitary tract. Some of its fibers ascend directly to diencephalic or even to telencephalic levels, but most are synaptically interrupted in the parabrachial nuclear complex or in the periaqueductal gray are all strongly and reciprocally connected with the central nucleus of the amygdala, the bed nucleus of the stria terminalis and the hypothalamus. Hence, it may be concluded that the ascending projection just discussed including its way stations in the brainstem forms the sensory counterpart of the emotional (-motivational) motor system.

The ventral part of the striatum is dominated by mimbic afferents, and thus ventral striatum projects, directly as well as indirectly via a ventral sector of the pallidum, back to the limbic domain, in particular to the lateral hypothalamic area and the caudolateral mesencephalic tegmentum. This striatolimbic projection is considered to play an important role in the initiation of locomotor activity.

Finally, the neocortex projects strongly to the greater limbic system. Sensory information originating from the external world, which is processed successively in subcortical centres, primary sensory cortices, unimodal association cortices and polymodal association cortices, is not only transferred to the motor and premotor cortices and thus to the voluntary motor system, but is also transferred in the same measure to the rostral parts of the greater limbic domains and therewith to the emotional (-motivational) motor system. These descending cortico-limbic projections are paralleled by strong ascending projections connecting rostral limbic regions with (mainly) the various association cortices. It is these extensive reciprocal connections between the cognitive brain and the emotional-motivational domains of the neuraxis which enable the organism to harmonize the reality of the external world with its internal urges.

# 2.5.3 NEUROBIOLOGICAL FACTORS

Within the human body messages are constantly passed from one location to another. This transferring occurs in two different ways, the first of which, endocrine secretion, has been analysed above. The second way is via the nervous system (Bear, et al., 2007). The nervous system consists of neurons, electrically excitable cells that transmit information throughout the body via electrical and chemical signals. Depending on their role, they are divided into three categories: motor, sensory and interneurons. Neurons are connected to each other via a specialized structure called a synapse. In contrast to endocrine secretion where hormones are transferred, in a synapse communication an excited neuron releases a chemical substance called neurotransmitter. Dopamine and serotonin are two examples of such substances. It is important

to distinguish between hormones and neurotransmitters because reference to these terms can become confusing. Although they are both chemical compounds and both require receptors to function, they have essential semantic differences. Hormones are released directly into the bloodstream by an endocrine gland. The transmission speed is low, it is spread throughout the body and it is picked up by corresponding receptors. Neurotransmitters are released from a nerve terminal by an electrical impulse into other neurons. Their signal is transferred rapidly through fixed networks to precise destinations (Elias & Saucier, 2006).



Figure 9. Hormone-Brain-Behavior

Some of the human hormones are able to influence the emotions. This fact should be taken into account in case an Emotional Intelligent person is in a position that he/she cannot control them. The basic hormones that can affect the human emotional status are:

### Cortisol

Cortisol (or hydrocortisone), produced by the adrenal glands, belongs to a specific group of steroid hormones called glucorticoids. The secretion process is triggered when a person feels emotional or physical stress, consequently known as the "stress" hormone. (Davies, et al., 1985).

### Oxytocin

Oxytocin is a polypeptide hormone secreted by pars nervosa, the dorsal part of the posterior pituitary gland. It differs from other hormones as it lies within the subcategory of neurohormones, a term coined by Otto Loewi (1921). It describes the hormones produced by neurosecretory cells in the brain that affect cells away from the secretion site of the hormone. Sensory neurons, in order to convert external environmental stimulus to internal, encourage nerve cells to produce oxytocin in the hypothalamus. Subsequently, the neurons send their projections to the posteriorpituitary gland where oxytocin binds to a substance called neurophysin I. As soon as the binding process is completed, this mix of oxytocin and neurophysin I is secreted through the posterior pituitary into the bloodstream, via which it reaches its target. This is known as neuroendocrine secretion. Alternatively, it can be directly transported to other brain parts and then attach to receptors influencing physiology and behaviour (Brownstein, et al., 1980). It is also known as the "love" hormone as there is a correlation with trust and bonding (Pfaff, et al., 2009).

### Testosterone

Testosterone is a steroid sex hormone found in large amounts in males and lesser in females. The production of testosterone starts during puberty and is mediated by the male hypothalamicpituitary-adrenal axis (HPA). In males, testosterone is mainly responsible for genital size development, sperm production, libido, and erectile function and to a lesser extent for hair growth, deep voice and body composition. Interestingly, in females the full impact of testosterone has not yet been established, probably due to the complexity of their reproductive system. What is certain is the vital role it plays in female sexual life and bone mineralization as low testosterone levels may lead to osteoporosis and osteopenia. In addition, it contributes to physical differences between the two genders as, it is argued, and males have bigger brains than females but fewer connections between the two hemispheres. Hitherto, the impact of the fewer connections has not been proven (Payne & O'Shaughnessy, 1996). Finally, excessive amounts of testosterone in men cause persistent erection, sudden cardiac death and liver disease while in women acne, a deep voice and excessive hair growth. Conversely, insufficient testosterone in men leads to lack of energy, irritability, anorexia, reduced cognitive functions and poor body composition in comparison to women where it causes osteoporosis, persistent fatigue, a reduced sense of well-being and reduced cognition and memory function (Nelson, 2005).

### Vasopressin

Vasopressin (or Arginine Vasopressin or Antidiuretic Hormone) is a neurohypophysial hormone that belongs to the group of peptides. AVP is produced by the hypothalamus and it is then transferred by neurons to the posterior pituitary where it is stored until it is released into the bloodstream. The AVP's main function is the maintenance of water balance in the human body and is released in response to changes in blood pressure levels. Dehydration triggers AVP secretion and causes the kidneys to hold excess water which in turn increases blood pressure and volume (Caldwell & Young, 2006). Furthermore, it is responsible for pairbonding in voles (Lim & Young, 2004), aggressive behaviour (Carter, 2007), and is associated with social memory and kin protection (Ferguson, et al., 2002). Above normal amounts of AVP in the human body can cause hyponatremia where the sodium ion concentration is lower than normal. Hyponatremia is associated with liver, heart and kidney failure as well as with pneumonia. In contrast, insufficient AVP can cause excessive thirst and diseases such as hypernatremia, diabetes insipidus, polyuria and polydipsia (Reynolds, et al., 2006).

### Progesterone

Progesterone, a steroid hormone that belongs to the group of progestogens, was discovered and named by Willard M. Allen and George W. Corner, his anatomy professor (Allen, 1935). It is primarily secreted by the ovaries and secondarily by the adrenal glands and the placenta. Progesterone is produced by females similarly to testosterone production by men. Progesterone production is mediated by the female HPA axis. It occurs just before ovulation and is responsible for the condition of the inner lining (endometrium) of the uterus. Progesterone production in men is not as important to sexual maturity as testosterone (Landau, et al., 1955). Progesterone is also responsible for the growth of maternal breast tissue, the immune system, anti-aging and the regulation of the thyroid gland (Schindler, et al., 2003). It inhibits OT bounding (Grazzini, et al., 1998) and currently, the potential of progesterone in preventing preterm birth is being investigated (da Fonseca, et al., 2003). High progesterone levels have not been proven to be responsible for any disease whereas insufficient progesterone during pregnancy causes increased menstrual bleeding and can result in a miscarriage.

### Reciprocal Effects

It is important to realize that hormone-behavior effects are not one-way. This means that hormone levels affect behavior, but behavior also affects hormone levels. The best example of this might be the relationship with testosterone and competitive behavior. Raising testosterone levels seems to make animals more competitive, and with enough of a boost, this translates into an increase in fighting behavior. But, it is also true that being in a competition has the effect of changing testosterone levels. It has been shown that even competition by proxy, such as watching your favorite sport team win or watching a movie character win an important battle,
leading to an increase in power will cause a rise in circulating testosterone levels. (psychology.iresearchnet.com, 2017)

### 2.6 LEADERS vs MANAGERS

It was considered as need this thesis to make a reference regarding the differences between the Management and Leadership before we proceed with the analysis of Emotional Intelligence in Eldership.

There are over fifty definitions and descriptions of what the leadership is. Removing for a moment the moral issues behind it, and there is only one definition: Leadership is the ability to obtain followers. Leadership is influence (Maxwell, 1993).

While management and leadership share similar roles, it is important to make a distinction between those two functions. The primary mission of both leaders and managers is to control and influence other people. The most important difference between managers and leaders is their approach to achieve the goals. Managers exercise their control through formal power, but leaders use their vision, and by inspiration, motivation to align their followers. Balancing the role of both management and leadership are critical to the organization's success. Moreover, sometimes it is essential for managers to be successful to work as leaders (Algahtani, 2014). According to Zaleznik (1977) and Lunenburg (2011), main differences between managers and leaders are presented in the following table:

Leader Characteristics	Manager Characteristics
Focus on people	• Focus on system and structure
Has followers	Has subordinates
• Informal influence	<ul> <li>Formal authority</li> </ul>
Takes risk	Minimize risks
Facilitates decisions	Makes decisions
• Doing the right things	<ul> <li>Doing things right</li> </ul>
• Large range perspective	Short range perspective
Transformational	Transectional
• Sets strategies and vision	• Plans and budgets
Challenges	Maintains
Values	• Rules
Innovation	Standardization
Looks outward	<ul> <li>Looks inward</li> </ul>
Articulates a vision	• Executes plans
• Creates the future	• Improves the present
Sees the forest	Sees the trees
• Empowers	Controls
Colleagues	Subordinates
Trusts & develops	Directs & coordinates
Creates change	Manages change
Serves subordinates	• Serves superordinates
Uses conflict	Avoids conflict
Acts decisively	Acts responsibly

Table 4. Leaders vs Managers (Algahtani, 2014)

# 2.6.1 LEADRSHIP & EI

In this chapter we will refer to the leadership that is related to emotional intelligence.

Goleman, Boyatzis, and McKee (2002) have argued that emotional intelligence is a critical component of leadership effectiveness, particularly as leaders deal with teams. Emotionally intelligent leaders serve as a benefit to teams in two ways. Leaders motivate team members to work together toward team goals. Leaders also serve as a transformational influence over team members. In this manner, leaders challenge the members of the team to work toward increasing team effectiveness and performance, facilitate team member interaction dynamics, build interpersonal trust, and inspire team members to implement the articulated vision (Prati, et al., 2003).

#### Basic Abilities of the Emotional Intelligent Leader

There are at least four major aspects of emotional intelligence: the appraisal and expression of emotion, the use of emotion to enhance cognitive processes and decision making, knowledge about emotions, and management of emotions (Table 5).

Appraisal and expression of emotion	Use of emotions to enhance cognitive processes and decision making	Knowledge about emotions	Management of emotions
Aware of own emotions	Emotions direct attention and signal focus of attention	Knowing the causes of emotions	Meta-regulation of mood (reflection on the causes, appropriateness, and changeability of emotions)
Can accurately express own emotions	Emotions facilitate making choices	Knowing the consequences of emotions	Positive mood maintenance
Aware of others' emotions	Use of specific emotions to enhance certain kinds of cognitive processes	Knowing how emotions progress over time	Negative mood repair or improvement
Can accurately express others' emotions Empathy	Use of shifts in emotions to promote flexibility		Management of others' emotions

#### Table 5. Aspects of emotional intelligence

#### 1. The appraisal and expression of emotions

Appraisal and expression of emotion pertain to both the self and other people. People differ in terms of the degree to which they are aware of the emotions they experience and the degree to which they can verbally and non-verbally express these emotions to others. Accurately appraising emotions facilitates the use of emotional input in forming judgements and making decisions. The accurate expression of emotion ensures that people are able to effectively communicate with others to meet their needs and accomplish their goals or objectives. Related to the appraisal and expression of emotion in others is the concept of empathy, the ability to understand and experience another person feelings or emotions. Empathy, a contributor to emotional intelligence, is an important skill which enables people to provide useful social support and maintain positive interpersonal relationships (George, 2000).

#### 2. The use of emotion to enhance cognitive processes and decision making

The leader must have a thorough knowledge about emotions, meaning the leader is able to predict emotional reactions in various scenarios. For instance, emotional intelligent leaders

expect associates to be of good cheer when they are given a raise, or to suffer dissatisfaction and anxiety when given a bad performance appraisal. This knowledge aids the leader in the activity of emotion regulation and management of team members (Prati, et al., 2003).

#### 3. Knowledge about emotions

This third aspect involves the use of emotion whereby emotionally intelligent leaders recognize that emotions are useful in the influence of behaviour and cognition of others. Regulation of emotions that is useful to maintain social roles. As well, effective emotional regulation has a positive effect on performance and general interactions. For example, a positive emotion or mood can facilitate innovative thinking, contribute to a supportive environment, or simply assist one in the priority of attention through clearer or more positive thinking (Prati, et al., 2003).

#### 4. Management of emotions

Emotional intelligence also includes a more proactive dimension with regards to feelings: the management of one's own and other people's moods and emotions. Research has found that people strive to maintain positive moods and alleviate negative moods; emotional intelligence captures individual differences in the extent to which one is able to successfully manage moods and emotions in these ways. Management of one's own moods and emotions also relies on knowledge and consideration of the determinants, appropriateness, and malleability of moods and emotions. This regulation entails a reflective process, which has been referred to as the meta-regulation of mood. Essentially, emotional intelligence encompasses individual differences in the ability to accurately reflect on one's moods and manage them (George, 2000). Thus, the management of emotions facet brings the three previous aspects together to be used in ultimately directing one's own as well as others' interaction processes and emotional responses. It is the leader's job to manage emotions toward the creation of more effective teams (Prati, et al., 2003).

## 2.6.1.1 EI & THE SIX STYLES OF LEADERSHIP

According to Daniel Goleman (Goleman, et al., 2002), six different types of leadership are directly related to the dimensions of emotional intelligence and have different effects on the work performance and the body's climate. These styles are as follows:

#### 1. Visionary Leader

The visionary leader articulates where a group is going, but not how it gets there — setting people free to innovate, experiment and take calculated risks. Inspirational leadership is the emotional intelligence competence that most strongly undergirds the visionary style. Transparency, another EI competency, is also crucial. If a leader's vision is disingenuous, people sense it. The EI competency that matters most to visionary leadership, however, is empathy. The ability to sense what others feel and understand their perspectives helps leader articulate a truly inspirational vision.

#### 2. Coaching Leader

The coaching style is really the art of the one-on-one. Coaches help people identify their unique strengths and weaknesses, tying those to their personal and career aspirations. Effective coaching exemplifies the EI competency of developing others, which lets a leader act as a

counsellor. It works hand in hand with two other competencies: emotional awareness and empathy.

#### *3. Affiliative Leader*

The affiliative style of leadership represents the collaborative competency in action. An affiliative leader is most concerned with promoting harmony and fostering friendly interactions. When leaders are being affiliative, they focus on the emotional needs of workers, using empathy. Many leaders who use the affiliative approach combine it with the visionary approach. Visionary leaders state a mission, set standards, and let people know whether their work is furthering group goals. Ally that with the caring approach of the affiliative leader and you have a potent combination.

#### 4. Democratic Leader

A democratic leader builds on a triad of EI abilities: teamwork and collaboration, conflict management and influence. Democratic leaders are great listeners and true collaborators. They know how to quell conflict and create harmony. Empathy also plays a role. A democratic approach works best when as a leader, you are unsure what direction to take and need ideas from able employees. For example, IBM's Louis Gerstner, an outsider to the computer industry when he became CEO of the ailing giant, relied on seasoned colleagues for advice.

#### 5. Pacesetting Leader

Pacesetting as a leadership style must be applied sparingly, restricted to settings where it truly works. Common wisdom holds that pacesetting is admirable. The leader holds and exemplifies high standards for performance. He is obsessive about doing things better and faster, quickly pinpointing poor performers. Unfortunately, applied excessively, pacesetting can backfire and lead to low morale as workers think they are being pushed too hard or that the leader doesn't trust them to get their job done. The emotional intelligence foundation of a pacesetter is the drive to achieve through improved performance and the initiative to seize opportunities. But a pacesetter that lacks empathy can easily be blinded to the pain of those who achieve what the leader demands. Pacesetting works best when combined with the passion of the visionary style and the team building of the affiliate style.

#### 6. Commanding Leader

The command leader demands immediate compliance with orders, but doesn't bother to explain the reasons. If subordinates fail to follow orders, these leaders resort to threats. They also seek tight control and monitoring. Of all the leadership styles, the commanding approach is the least effective. Consider what the style does to an organization's climate. Given that emotional contagion spreads most readily from the top down, an intimidating, cold leader contaminates everyone's mood. Such a leader erodes people's spirits and the pride and satisfaction they take in their work. The commanding style works on limited circumstances, and only when used judiciously. For example, in a genuine emergency, such as an approaching hurricane or a hostile take-over attempt, a take-control style can help everyone through the crisis. An effective execution of the commanding style draws on three emotional intelligence competencies: influence, achievement and initiative. In addition, self-awareness, emotional self-control and empathy are crucial to keep the commanding style from going off track.

As it seems from the above, a leader is not limited to adopt one style. His/her management approach could be to carry out through a combination of the aforementioned styles keeping specific features from each.

### 2.6.2 THE ELEVEN BASIC BEHAVIOUR FEATURES OF AN EI LEADER

In accordance with Ryback (Ryback, 1998), the EI leader displays eleven basic behaviours that differentiate him/her from those who are not so EI leaders:

- 1. He/she does not hold a critical attitude towards his subordinates. The critique is always made with constructive comments. There is a huge difference between saying "you do not do your job well" than saying "you would have done your job better if you did this ..." The first kind of criticism detracts from the self-confidence of the other, the second one gives way to improvement and makes him feel that he has the appreciation and interest of his boss.
- 2. He/she has understanding of others and their feelings and uses examples of his/her own experiences to help others to better understand themselves.
- 3. He/she is honest about his/her feelings and his/her intentions. He/she is authentic and straightforward and articulates goals clearly, without rotations, without hypocrisy and deceit.
- 4. He/she is always there, ready to take on his/her responsibilities, open to criticism. Even when things go badly, he/she does not hold a defensive position or raises the problems to subordinates. With transparency and absolute honesty, he/she undertakes the responsibilities of his/her actions and ends up with decisions after he/she has given the opportunity to all those who are directly interested in expressing their opinion.
- 5. He/she gives attention to detail without losing the bigger "picture".
- 6. He/she is expressive and gives great importance to personal communication. He/she does not hesitate to share his/her feelings, but he/she is selective when and where he/she does it.
- 7. By sharing feelings and thoughts with colleagues and subordinates at the right time, the leader can create a stronger sense of group identity, demonstrating that he/she is a person confident of himself, thus gaining respect and trust in the team.
- 8. He/she is supportive and makes others feel irreplaceable and valuable and that they contribute actively to the success of the business.
- 9. He/she is decisive and resolves conflicts quickly before they get big and become uncontrollable.
- 10. He/she is zealous and enjoys a sense of power without the hunting of success becoming an end in itself. He/she does not think he/she has to prove anything to anyone; he/she has only a responsibility towards himself/herself, his/her subordinates and business.
- 11. He/she is self-confident and leaves others to evolve, encouraging them to take greater risks and set higher goals, thus making the most of their talent and abilities.

All the above behaviours have the same bottom line: The leader should emphasize the direct communication and emotional relations of executives, show understanding and create a climate of enthusiasm, positive energy and thus enable existing ones to be able to improve their personality through teamwork by broadening their spiritual horizons.

### 2.7 NEUROECONOMICS AND EMOTIONAL INTELLIGENCE

"Human behaviour, in general, and presumably, therefor, also in the market place, is not under the constant and detailed guidance of careful and accurate hedonic calculations, but is the product of an unstable and irrational complex of reflex actions, impulses, instincts, habits, customs, fashions, and mob hysteria." (Viner, 2925)

Neuroeconomics is a combination of mathematical frameworks, experimental paradigms, and lab and field behavioural data about "peoples' choices" (from economics) and measures of neural activity (from neuroscience). The goal is to relate mathematical theories of choice to neural measures, to build hypotheses that constrain competing economic theories, to predict effects of cognitive and emotional factors on individual choices, and to suggest when people do not always choose what is best for them (and what good policies allow) (Camerer, 2008).

A wider area of "experimental economics" was created incorporating neuroeconomics that essentially bridged neurobiology with human behaviour and economic theory, trying to give a picture of brain functions based on decisions are taken from quantified descriptions of economic behaviour and the ability of neuroscientists to model economic phenomena. The basis for the development of this new approach was made by Kahneman D. and Vernon S, the Nobel Prize winner in 2002, to the integration of psychological research into the economic sciences, particularly in terms of human crisis and reception decisions in uncertainty and the introduction of laboratory experiments in economic empirical research, respectively.

The standard economic theory of constrained utility maximization is most naturally interpreted as a model of careful deliberation -a balancing of the costs and benefits of different optionsas might characterize complex decisions like lifetime savings planning and delicate contract design. Although economists may acknowledge that actual flesh-and-blood human beings often choose without much deliberation, the economic models as written invariably represent decisions in a 'deliberative equilibrium,' i.e., that are at a stage where further deliberation, computation, reflection, etc. would not by itself alter the agent's choice. While not denying that deliberation is always an option for human decision making, neuroscience research points to two generic inadequacies of this approach: First, much of the brain is constructed to support 'automatic' processes, which are faster than conscious deliberations and which occur with little or no awareness or feeling of effort. Because the person has little or no introspective access to, or volitional control over them, the behaviour these processes generate need not conform to normative axioms of inference and choice (and hence cannot be adequately represented by the usual maximization models). Second, our behaviour is under the pervasive and often unrecognized influence of finely tuned affective (emotion) systems that are localized in particular brain regions and whose basic design humans share with many other animals. These systems are absolutely essential for daily functioning. When affective systems are damaged or perturbed, by brain damage, stress, imbalances in neurotransmitters, alcohol, or the 'heat of the moment,' the deliberative system generally is not capable of getting the job done alone (Camerer, et al., 2005).

Kahneman in his Nobel awarded book referred to two systems in the mind, System 1 and System 2 (Kahneman, 2012):

✓ System 1: operates automatically and quickly, with little or no effort and no sense of voluntary control.

✓ System 2: allocates attention to the effortful mental activities that demand it, including complex computations. The operations of System 2 are often associated with the subjective experience of agency, choice, and concentration.

So, Kahneman defined system 1 as an intuitive system while system 2 is specific to reasoning. The first system is tributary to emotion, while the second system has in its composition, conscious attitudes. He believes that the first system is an innate one and also met in the animal world, while the second is specific to human species. The first system was also defined as the one executing quick thinking, while the second system is running slow thinking. System 1 is influenced by emotions and experiences, while the second one is based on facts and logic. While the first system is based on perceptions, the second one is based on compliance with rules pertaining to logic. The system 1 refers more to unconscious processing type while system 2 is tributary to conscious processing, hence the differences between processing and storage capacity of the two systems. The second system uses data provided by the first system, but perhaps one of the greatest contributions made by this bi-systemic approach is derived from the fact that, most of the time people make decisions using the first system (Vlasceanu, 2014).

The aforementioned reference leads us to highlight some of the findings from neuroscience that can prove most relevant to economics, emphasizing those that contrast most sharply with standard rational-choice models of optimization and equilibration. Table 6 indicates the two distinctions, between controlled and automatic processes and between cognition and affect.

As described by the two rows of Table 6, *controlled processes* tend to be serial (they use stepby-step logic or computations), tend to be invoked deliberately by the agent when her or she encounters a challenge or surprise, are often associated with a subjective feeling of effort, and typically occur consciously. Because controlled processing is conscious, people often have reasonably good introspective access to it. Thus, if people are asked how they solved a math problem or choose a new car, they can often provide a fairly accurate account of their choice process. Standard tools of economics, such as decision trees and dynamic programming, to the extent that they are actually used by individuals, epitomize controlled processes. *Automatic processes* are the opposite of controlled processes on these dimensions; they operate in parallel, are not associated with any subjective feeling of effort, and operate outside of conscious awareness. As a result, people often have surprisingly little introspective access to why automatic choices or judgments were made. For example, a face is perceived as 'attractive', or a verbal remark as 'sarcastic', automatically and effortlessly. It's only later that the controlled system reflects on the judgment and tries to substantiate it logically (and often does so spuriously) (Camerer, et al., 2005).

The second distinction, represented by the two columns of table 6, is between cognitive and affective processes. Such a distinction is pervasive in contemporary psychology and neuroscience, and has an historical lineage going back to the ancient Greeks and earlier (Plato described people as driving a chariot drawn by two horses, reason and emotion). Zajonc (1998) defines cognitive processes as those that answer true/ false questions and affective processes as those that motivate approach/ avoidance behaviour. Affective processes include emotions such as anger, sadness, and shame, as well as "biological affects" (Buck 1999) such as hunger, pain, and the sex drive (Camerer, et al., 2005).

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	Cognitive	Affective
<b>Controlled Processes</b>		
• Serial		
• Effortful	Ι	II
• Evoked deliberately		
Good introspective access		
Automatic Processes		
• Parallel		
• Effortless	III	IV
• Reflexive		
• No introspective access		

Table 6. A two-dimensional characterization of neural functioning

The first quadrant (e.g. refinancing) takes action when it comes to calculating a financing, such as the purchase of a consumer goods and calculations in terms of present value, this quadrant is mainly about mathematical problems. The second quadrant (e.g. emotional experience) rarely presents a logical act because its main feature is imagination. It is used by actors who recall an *emotional experience* of the past to express feelings and convince their audience in the present. The third quadrant (e.g. body movement) refers to body movements, for example legs, to shoot in a soccer game. The fourth quadrant (e.g. reaction to sudden noise) refers to movements made to cover the face when an object is directed to it, e.g. ball (Konstantinidis, 2016).

As it is seems from the above, the classical theory that people act and take decisions as rational beings and cogitator men (Homo Economicus) is to be overturned. Decision making process includes a variety of aspects that are interconnected: brain, neurons, emotions, hormones. Emotional Intelligence as defined in previous chapters can influence that process. Hence, the EI improvement for each individual is able to have a positive impact to his/her actions as they will be in the position to handle both their and others emotions leading to high employees performance (if this is the business target) or establish a strong teamwork.

# 2.8 WHAT IS THE PSYCHO-MANAGEMENT?

The term of Psycho-Management was referred to in the introduction of this thesis and we have not provided further analysis of it so far. The literature review is based on the Emotional Intelligence as it is the core of this management style.

Having taken into consideration the theory, it can be argued that the basic features of Psycho-Management are:

- Emotional Intelligence, with emphasis to
  - o Empathy &
  - o Social skills,
- Healthy lifestyle



Figure 10. Psycho-Management

Based on the five (5) domains of EI defined by D. Goleman, a high EI Manager may include some -or all- from the following characteristics: Self-awareness, Self-regulation, Motivation, Social Skills and Empathy. The Psycho-Management Manager should have improved and established the last two characteristics as they are the most interactive features for the bipolar Supervisor – Subordinate:

- *Empathy* leads the Manager to understand deeply how his/ her subordinates feel.
- *Social skills* are important as they are the basic tools for messages transferring and communication improvement.

According to R. Riggio (Riggio, et al., 1989) basic social skills are of three types: skill in encoding (labelled expressive skills), skill in decoding (called skills in sensitivity) and ability to regulate, or control communication. These three basic skills operate in two domains: the nonverbal domain (dominated by skill in *emotional* communication) and the social domain (dealing primarily with the verbal/ social aspects of communication skill).

Finally, the *healthy lifestyle* results in keeping our body and its endocrinology system in good condition and so all the hormones that can influence human's emotions are controllable. In accordance with the research of An. Kafatos (Kafatos, et al., 1999), among the most important behavioural factors affecting the health is smoking, food and stress. Further to M. Krawczynski and H. Olszewski research (Krawczynski & Olszewski, 2000) the attempt of implementation of a physical activity program for people over 60 (sixty) years of age, led them to the results that the participants showed a significant improvement in their psychology and mental health during the program.

The internal – physical and mental – balance is able to help (but not limited to) managers handling their emotions and really understanding the emotions of others and having the ability to communicate their ideas and thoughts.

The Psycho-Management style may become the company's or organization's mean for the smooth implementation of new corporate policies, keeping the employees satisfied and leading them to high productivity and profitability. Furthermore, as a new trend, this style of management should be investigated additionally as there are many parameters that can affect its application.

#### SECTION 3

## 3. RESEARCH METHODOLOGY AND TOOLS

In the section below the methodology for the research is defined. The sample of the research comes from various departments of Greek companies. Managers of these companies' departments answered a questionnaire in order their EI to be measured. In addition, a questionnaire related to employee satisfaction was distributed to direct subordinates of the relevant managers.

### 3.1 RESEARCH FIELD

Through the literature review of Emotional Intelligence with emphasis within workplace, various questions have arisen which needed further research. Recognizing the importance of Emotional Intelligence in the field of business, although is not something new and has been extensively studied, defines a large field of research that can be investigated further.

Having taken into consideration the Daniel Goleman's researches and theory - model (§ 2.4.1), we considered that the relevant domains which define the Emotional Intelligence are able to lead us to a new knowledge for a new Management Style. In that, respect we used the initial Goleman's model, which describes the EI including the following features:

- ✓ self-awareness,
- ✓ self-management,
- $\checkmark$  social awareness, and
- ✓ relationship management.

The aforementioned features lead us to the methodology we used (questionnaires, §3.2.3). This model was the basis of Wong and Law questionnaire, and therefore, the researcher decided to use and include in his research because this tool used was valid, reliable and weighted (Kafetsios & Zampetakis, 2008).

The Emotional Intelligence may influence the relationship between Managers – Subordinates as well as the decision making for either supervisors or employees. In other words, Emotional Intelligence is a major parameter for everybody as soon as it affects our thoughts, behaviours, decisions and relations.

One of the main objectives of this study is to investigate whether emotional intelligence is common in Greek Managers. Then, we would like to highlight the impact that EI may have to the direct subordinates. Our research was extremely detailed. Particularly, we were studying fifty six (56) hypotheses in order to find out the factors that affect the Managers' EI, the Subordinates satisfaction and the new proposed Management style (Psycho-Management, §2.8). However, at this stage, we tried to group all the studied hypotheses in three statements. Thus, the following statements were being studied:

Hypothesis A (HA):

The Greek Managers' gender, age, marital status, monthly family income, parenting (if they have children), educational background,

position (if they have direct Supervisor), sector of employment, years of employment and their combinations influence their Emotional Intelligence.

As it has been stated in paragraph 2.8, researcher's try to define the term of Psycho-Management, the domains of Empathy and Social skills were quantified and measured through the Others' Emotions Appraisal (OEA) and Regulation Of Emotions (ROE) respectively. Hence, the statements investigated are:

For Empathy:

Hypothesis B1 (HB1): The Greek Managers' gender, age, marital status, monthly family income, parenting (if they have children), position (if they have direct Supervisor), sector of employment, educational background and their combinations influence their Empathy.

For Social Skills:

Hypothesis B2 (HB2): The Greek Managers' gender, age, position (if they have direct Supervisor), parenting (if they have children), sector of employment, educational background, years of employment, monthly family income and their combinations influence their Social Skills.

This thesis was not limited to the aforementioned investigation only. Researcher's intention is to investigate the impact of the EI Managers to their subordinates/ employees. The appraisal and expression of emotions, the use, the knowledge and management of emotions are basic abilities that differentiate a Leader from a Manager (§2.6.1). Therefore, we studied the below statements:

- Hypothesis C1 (HC1): The Greek Managers' EI and factors as: gender, age, educational background, monthly family income, years of employment, marital status, parenting (if they have children), sector of employment, and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.
- Hypothesis C2 (HC3): The Greek Managers' Empathy and factors as: gender, age, educational background, monthly family income, years of employment, marital status, parenting (if they have children), sector of employment, and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.
- Hypothesis C3 (HC3): The Greek Managers' Social Skills and factors as: gender, age, educational background, monthly family income, years of employment, marital status, parenting (if they have children), sector of employment, and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.

In terms of Psycho-Management new definition, it had to be investigated the healthy lifestyle: the dietary and the daily habits of the Managers. In addition, it would be very useful knowledge if we were able to know the hormones levels which have impact on Managers' behaviors and

attitudes (§2.5.3). However, this kind of research exceeds the initial aim of this thesis which focuses on the EI and its basic characteristics, Empathy and Social Skills.

This research includes a trial to support the new tendency that the decisions made by individuals are not through the rational process only. As is has been stated previously, the classical theory that people act and take decisions as rational beings and cogitator men (Homo Economicus) is to be overturned. Decision making process includes a variety of aspects that are interconnected: brain, neurons, emotions, hormones (§2.7).

# 3.2 DESIGN OF RESEARCH

Research is defined as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. The Advanced Learner's Dictionary of Current English lays down the meaning of research as a "careful investigation or inquiry especially through research for new facts in any branch of knowledge" (Kothari, 2005). According to Dawson (Dawson, 2009), there are two types of background research: Primary and Secondary. Primary research involves the study of a subject through first-hand observation and investigation. Secondary research involves the collection of information from studies that other researchers have made of a subject.

Primary research is used for this thesis, as the study was carried out through questionnaires. The scope of this study is the author to be led in those findings that could support the statements/ hypotheses as defined in the previous chapter - 3.1.

# 3.2.1 QUALITATIVE VS QUANTITATIVE DATA

The *Qualitative* data is also known as the socio-anthropological research paradigm. It is interpretative, and ethnographic in nature. The underlying approach requires detailed observation, explanation and assumes that it is impossible to define exactly what elements are important and crucial and should be considered to the exclusion of others. It argues that validity is important than attempting rigorously to define what is being observed and by so doing study the whole situation. It attempts to study the whole situation in order to evaluate the complexity and ensure that their conclusion take account of both unique and general factors. *Quantitative* data on the other hand is empirical in nature. It is also known as the scientific research paradigm. The paradigm ensures validity by the process of rigorous clarification, definition or use of pilot experiments (Atieno, 2009).

Further to the literature review and based on the scope of this thesis, it was chosen quantitative data analysis for this research. Thus, it was chosen by collecting data from a suitable sample of Managers and Subordinates, through questionnaires, in order to highlight their tendencies in relation to the subject. In addition, the quantitative approach allows the study of the correlations between several variables, such as the degree of correlation between the responses of Managers/ Supervisors and Subordinates/ Employees, the level of education in relation to the recognition of the value of Emotional Intelligence, etc. One more reason for choosing the quantitative data approach is the quicker statistical processing, since the timeframe for completing the research is limited.

## 3.2.2 SAMPLE

This research uses sample from Greek companies/ organizations of various sectors and sizes. Particularly, it was asked from Managers/ Supervisors and their direct Subordinates/ Employees to fill out a questionnaire with sincerity and spontaneity.

The questionnaires distribution was conducted from 19<sup>th</sup> of October until 31<sup>st</sup> of October 2017. The number of responses collected was 214 (two hundred and fourteen): 64 (sixty four) are Managers/ Supervisors and 150 (a hundred fifty) Subordinates.

## **3.2.3 QUESTIONNAIRES**

In order to be able to collect information from a large number of respondents, it was necessary to use a standard questionnaire, which will then be analyzed through the statistical processing of the data. In order to produce valid results that are relevant to the subject being investigated, it is necessary to include in the questionnaire appropriate questions that will relate to the assumptions of the survey, include the necessary demographic characteristics of the sample, then through correlations make it possible to describe specific groups emerging from research, such as sex for example.

For the purpose of this survey, the questionnaire was chosen as the most appropriate methodological tool. The first reason is that it can be addressed to many respondents at the same time, increasing the size of the sample and, secondly, making it easy to encode it.

The questionnaires that were used for this thesis research were identified through the literature review. Having taken into consideration that the research would apply to Greek companies, the researcher was looking for a *reliable* and *valid* questionnaire in Greek. The book "Ta  $\psi$ υχομετρικά εργαλεία στην Ελλάδα" ("The Psychometric Tools in Greece") includes reliable and valid questionnaires ready for use (Stalikas, et al., 2012).

The questionnaires used were for the measurement of Emotional Intelligence and Employee Satisfaction. Regarding the EI, the author used the questionnaire suggested by Wong and Law – Wong & Law Emotional Intelligence Scale/ WLEIS (Wong & Law, 2002) and adjusted by Pr. K. Kafetsios (Kafetsios & Zampetakis, 2008). As far as the Employee satisfaction, it was used the Employee Satisfaction Inventory – ESI as it was provided by Professor Athanasios Koustelios (University of Thessaly) for our research purposes. The respondents had to indicate their answers using the Likert scale.

The Likert scale is the simplest in creation and the most widespread. Its goal is to measure attitudes or opinions of subjects who are asked to choose one of the possible fixed form responses in a set of questions that represent the object of the study. The Likert scale allows an overall score to be attributed to the answers of each subject (for example, a higher score means a more positive attitude; a lower score means a more negative attitude). But it is quite difficult to interpret whether two subjects measure the difference between the grades of this scale and therefore we cannot be sure that choosing the same answer to a question means finally the same degree of acceptance.

#### Wong and Law Emotional Intelligence Scale (WLEIS)

The questionnaire WLEIS was distributed to Managers and Supervisors of various Greek companies/ organization departments for measuring the Emotional Intelligence. The questionnaire consists of the following parts:

- The first part consists of closed-ended questions concerning the demographics of the respondent, such as gender and age. It is requested the family income (monthly) to be completed. We ask the family income because a high income leads the Managers not to depend their management style on their personal salary.
  - The second part is related to the Emotional Intelligence which includes:
    - Self-Emotion Appraisal (SEA) Q1 to 4
    - Others' Emotion Appraisal (OEA) Q5 to 8
    - Use Of Emotion (UOE) Q9 to 12
    - Regulation Of Emotion (ROE) Q13 to 16

The respondents had to answer each question using the 7-point Likert Scale (1 = absolutely disagree, 7 = absolutely agree).

#### Employee Satisfaction Inventory (ESI)

•

The questionnaire ESI was distributed to Subordinates and Employees of various Greek companies/ organization departments for measuring their satisfaction related to their work position. The questionnaire consists of the following parts:

- The first part consists of closed-ended questions concerning the demographics of the respondent, such as gender and age.
- The second part is related to the Employee satisfaction which includes:
  - Working Conditions Q1 to 5
  - Salary Q6 to 9
  - Promotions Q10 to 12
  - Work Q13 to 16
  - Supervisor Q17 to 20
  - Organization Q21 to 24

The respondents had to answer each question using the 5-point Likert Scale (1 = absolutely disagree, 5 = absolutely agree).

### 3.3 ETHICS AND RESEARCH RELIABILITY

Every respondent was informed about the scope of the research as well as the duration of the questionnaire. The anonymity of the participants was protected, since the questionnaire does not ask for or reveal the identity of each participant.

The issues of validity and reliability of every research are an important factor of concern. The type of research methodology chosen and the data collection tool used influence the validity and reliability of a survey. In our research process, the methodology chosen and the relevant conditions with which the research was conducted ensure the validity and reliability of research.

## 3.4 TOOLS FOR DATA PROCESSING

The data were processed and the relevant outcomes were provided through the IBM SPSS 24 and Microsoft Excel 2013.

We used the Microsoft Excel 2013 for calculations and diagrams creation and IBM SPSS 24 for examining the correlations between the results collected through the questionnaires. The two-way ANOVA test was used.

# 3.5 **RESTRICTIONS - LIMITATIONS**

During the research – from the design development to data collection stage – there were various limitations. Researcher's intention was to eliminate them. Even though the researched handled most of them, some still existed. Particularly, the limitations that the author of this thesis had to deal with, were:

- i. The timeframe of this Master Thesis completion; the researcher had to complete and submit this thesis in specific timeframe.
- ii. The willing of Greek Managers to participate to the research; most of them were restrained and have concerns about questionnaire. Hence, the Greek Managers/ Supervisors sample was limited to 64 (sixty four) participants.
- iii. The Subordinates concerns about privacy and confidentiality. Hence, the results may be influenced by their concerns.
- iv. The researcher was not experienced with the method of research selected, and therefore, the whole process was slowed down.
- v. The researcher did not have any experience in statistics and much more time was needed for the analysis carried out via IBM SPSS 24.

Additional limitations were presented during the case study analysis. The interviews with the Managers of the company needed time and many tries for collecting the data. However, the required information collected and studied.

SECTION 4

### 4. FINDINGS – OUTCOMES

This section presents all the relevant results based on the information collected via the procedure as described in the previous section.

### 4.1 SAMPLE DESCRIPTION

SAMPLE					
Gender	Male	37.38%	Educational	Bachelor	65.89%
	Female	62.62%	Background	Elemantary	47.00%
				School	
Marital Status	Divorced	5.61%		High School	10.28%
	Single	47.66%		Professional	9.81%
				Institute	
	Married	46.73%		Technical	13.55%
				Institute	
Group of Ages	20-30	14.02%	<b>High Education</b>	Doctoral	3.27%
	30-40	63.55%		Master	36.45%
	40-50	18.22%		N/A	39.81%
	50-60	4.21%		PostDoc	0.47%
Sector of	Freelance	13.55%	Years of	<3	24.30%
Employment	Private	73.36%	Employment	3-6	21.50%
	Public	13.08%		6-9	14.49%
Position	Managers	29.91%	-	>9	39.72%
	Subordinates	70.09%			

#### Table 7. Sample

Based on the responses collected, most of the participants were female. The 62.62% of the respondents were female. This might be explained due to the fact that female employees (both Supervisors/ Subordinates) are more willing for taking part into a research and their intention for help others are higher.

There is a balance between the single and married participants ( $\sim 47\%$ ). D.Golemen points out that the family is one of the parameters that possibly influence the Emotional Intelligence.

Salovey and Mayer state that the age is related to the Emotional Intelligence of the individuals. Particularly, their findings show that the older people are more likely to develop higher Emotional Intelligence. The group of ages participated in the survey were between  $20 \sim 60$ . However, the 63.55% of the sample belong to the group of  $30 \sim 40$ .

Further to the research results, the 65.89% of participants hold a Bachelor's degree. The 36.45% holds a Master's degree too. Some of the participants are PhD holders (3.27%) and one of them holds a Post-Doctoral degree. In general, the majority of the sample has attended a graduate program which means that are qualified and certified.

The 73.36% of the participants work in private sector. The 13.55% of the sample work as freelancers and the 13.08% of the participants work in public sector.

The 39.72% of the participants (the majority) mentioned that they work for the same company or organization for more than 9 (nine) years. The 21.50% has experience for  $3 \sim 6$  years and the 24.30% less than 3 (three) years. The 14.40% stated that they work for  $6 \sim 9$  years. More than half of the sample (54.21%) works for more than 6 years in the same company. The unsafe working market conditions, due to the economic crisis in Greece have led the manpower not to seek for different working opportunities. Hence, all employees prefer to keep their position instead of looking for another employer.

Obviously, it was anticipated the subordinates to be much more than the Managers/ Supervisors. The sample consists of 29.91% Managers/ Supervisors and 70.09% Subordinates.

The 59.375% of Managers/ Supervisors do not report to any other Manager. Hence, the 40.625% holds both positions of Manager and Subordinate.

# 4.2 MANAGERS – SUPERVISORS

In this paragraph, the researcher provides all the results about the employees (or employers) who hold a Manager of Supervisor position in departments of various Greek companies or organization, or they are employers -as self-employed- to their collaborators.



Wong & Law Emotional Intelligence Scale (WLEIS):

Figure 11. WLEIS Breakdown

Figure 18 shows the distribution of the WLEIS (for all Managers/ Supervisors) in the four different domains that WLEIS indicator includes: Self-Emotion Appraisal (SEA), Others'

Emotion Appraisal (OEA), Use of Emotions (UOE) and Regulation of Emotions (ROE). The overall grade of EI between the Greek Managers is 5.46/7 (78% on percentage scale).

#### WLEIS Breakdown ~ Female Managers:



Figure 12. WLEIS Breakdown for Greek Female Managers

Greek Female Managers has a WLEIS of 5.48/7 (78.2% on percentage scale). This figure is very close to the average of WLEIS in total (5.46/7 - 78% on percentage scale). Hence, it is anticipated the same figure to be presented for Greek Male Managers too.

WLEIS Breakdown ~ Male Managers:



Figure 13. WLEIS Breakdown for Greek Male Managers

Greek Male Managers has a WLEIS of 5.45/7 (77.7% on percentage scale). This figure is similar to the Greek Female Managers and average too. However, it is very interesting to compare the domains of WLEIS between Female and Male Managers (Table 7).

Domains	Greek Female Managers	Greek Male Managers
SEA	5.60	5.77
OEA	5.59	5.24
UOE	5.81	5.59
ROE	4.91	5.19
WLEIS	5.48	5.45

Table 8. Comparison Female/Male Managers ~ WLEIS Domains

Further to Table 7, Female Managers has higher grade in Others' Emotions Appraisal (OEA) than the Male Managers' once. Empathy seems to be more familiar within female supervisors. One reason is that the motherhood, hence their biology system causes women to feel closer to others. Thus, the ability of understanding the emotions of others seems to be innate due to their body's secretion of hormones that help in giving birth and nursing of children. Bigger gap occurs in Regulation Of Emotions (ROE) in which the Greek Male Managers have achieved higher grade. Thus, Female Managers are able to understand better their subordinated than the Male Managers who regulate their emotions more efficient than Female Managers.

WLEIS Breakdown ~ Family Income Status (monthly):



Figure 14. WLEIS Breakdown for Managers with Family Income less than 1,000€

As it has been already mentioned in the previous chapter (§ 3.2.3), we asked from the participants to select their Family Income status per month. We used this option –and not the position's salary-because researcher's intention was to investigate the Managers' EI depending on their standard of living (which affected by their family's income).

The Managers with Family Income less than 1,000€ present a WLEIS score of 5.30/7 (75.2% on percentage scale) which is very close with the score of those who have Family Income higher than 2,000€, 5.49/7 (78.4% on percentage scale).





Domains	Family Income in EURO		
	>2,000	<1,000	
SEA	5.79	5.41	
OEA	5.41	5.27	
UOE	5.90	5.33	
ROE	4.87	5.20	
WLEIS	5.49	5.30	

However, comparing the Figure 21 and 22, we are led to the following comparison table:

Table 9. Comparison Family Income Status ~ WLEIS Domains

The above table shows that the Managers with higher Family Income have a better understanding of their and others' emotions and they are capable of using their emotions more efficient than those who have a low Family Income. However, the last Managers category present a much better ability to regulate their emotions. It seems that people of whom their monthly income is low, they are called to be more careful of how they expressed their emotions and attitude because they need their work. On the other hand, the Managers who have a very good income they are skilled with empathy and understanding, however, they are freer to express any kind of their emotions as they are not depended on their position due to the salary provided by the company.





Figure 16. Years of Employment ~ WLEIS Domains

Figure 23 shows the course of WLEIS and its domains through the years of employment for the same employer. It is easily noticed that the WLEIS presents an increasing tendency as well as the Self-Emotions Appraisal (SEA) and Use Of Emotions (UOA).

In contrast with the SEA and UOA, the Regulation Of Emotions presents a reducing course. This tendency can be explained because of the position that Managers hold within the company/ organization in conjunction with the years of experience. Particularly, the very experienced Managers feel more safe and able to act as they have built their "security zone". Hence, the Managers do not pay special attention of how they regulate their emotions, and therefore, their behaviour within the company.

In addition, it is noticed that similar figures are presented at the initial stage of Managers/ Supervisors employment (i.e. whose experience is less than 3 years). The new responsibilities and the need for being a part of the company or organization are reasons for highly motivation. Thus, the Self-Emotions Appraisal and how to use their emotions are the basic priorities for Managers at the early stage of their career. Having taken into consideration that they are not in a position to implement their ability to understand the emotions of others (empathy) and define the frame of being able to regulate their emotions –as they need time to know their subordinates and colleagues better, they invest on their capability to understand their emotions deeply and form an applicable attitude within the company.

It is noticeable that the domain of Others' Emotional Appraisal presents a constant course independently of the years of employment. It would be interesting if it was investigated the EI of Managers when they change company or organization having the same job description. Possibly, the Managers who work for the some employer are not motivated to improve their ability to understand and appraise emotions of others.



#### WLEIS Breakdown ~ Managers vs Managers/ Subordinates:

Figure 17. Mangers vs Managers/Subordinates ~ WLEIS Breakdown

The WLEIS for those who hold both positions -of Manager and Subordinate- is 5.38/7 (76.7% on percentage scale). The Managers who do not report to any direct supervisor achieved the score of 5.51/7 (78.8% on percentage scale).

The first category of Managers have lower grades to all domains than the second Managers category. The Managers without supervision may feel freer to improve their Emotional Intelligence. The Managers who direct report to other Managers/ Supervisors, it may confuse them and they are not able to discriminate their capabilities/ domains and how important their improvement is.

WLEIS Breakdown ~ Employment Sector:



Figure 18. Employment Sector ~ WLEIS Breakdown

Figure 25 compares the WLEIS indicator with its domains in accordance with the sector of employment in which the Managers/ Supervisors work for. The figures of the diagram (fig. 25) are presented in the following table:

	Sector			
Domains	Freelance	Private	Public	
SEA	5.72	5.63	6	
OEA	5.45	5.31	5.79	
UOE	5.69	5.61	6.17	
ROE	5.41	4.76	5.58	
WLEIS	5.57	5.32	5.89	

#### Table 10. Sector of Employment ~ WLEIS Domains

Further to the above table, the Managers who work in public sector have the highest grade of WLEIS: 5.89/7 (84.1% on percentage scale). The self-employed Managers achieved a score of 5.57/7 (79.1% on percentage scale) and hold the second position. The private sector holds the third place with Managers/ Supervisor's grade of 5.32/7 (76.2% on percentage scale).

These differences may be explained due to the fact that the public employees feel freer to act and so there is no any stressful feeling in their try to implement a management close to the EI management style. Hence, they are more available for improving their empathy and all related skills to EI. On the other hand, a low score for regulation of emotions (ROE) is noticed (4.76) for the Managers/ Supervisors in private sector. The feeling of monitoring is a parameter that can influence the procedures of emotion regulation. In addition, the Managers of private sector are more exposed to challenges, and therefore, they have to be more self-controlled and trained on the EI skills – which requires time.

WLEIS Breakdown ~ Educational Background:



Figure 19. Educational Background ~ WLEIS Breakdown

Figure 26 compares the WLEIS and its domains between the Managers/ Supervisors who hold a Master/PhD degree and those who don't. The WLEIS is similar for both categories. However, it is noticed a substantial difference regarding the use of emotions (UOE) which is higher for the Master and PhD holders. The majority of post-graduate programs are demanding. The necessity of a good use of emotion seems to be a requirement during the post-graduate studies as the students are called to deal with many difficulties. Thus, the duration of Master's studies could be considered as a training period for the students to improve their skills for a more efficient emotions use.



WLEIS Breakdown ~ Marital Status:

Figure 20. Marital Status ~ WLEIS Breakdown

The figure 27 compares the WLEIS score and its domains between Single<sup>3</sup> and Married Managers/ Supervisors. The WLEIS of Married tends to be higher. The following table provides the relevant figures:

	Marital Status			
Domains	Single Married			
SEA	5.40	5.85		
OEA	5.41	5.40		
UOE	5.64	5.72		
ROE	4.82	5.20		
WLEIS	5.32	5.54		

Table 11. Marital Status ~ WLEIS Domains

According to table 10, the married managers achieve a grade of 5.54/7 (79.3% on percentage scale) and single a grade of 5.32/7 (75.3% on percentage scale). A substantial gap is noticed

<sup>&</sup>lt;sup>3</sup> In Single group includes the divorced Managers/ Supervisors as the sample of those was very limited.

for the domains of Self-Emotions Appraisal (SEA) and Regulation Of Emotions. These differences may be explained as the married people should be more self-controlled as soon as they have to assess their emotions and behavior on daily basis during the common life with their spouses.



WLEIS Breakdown ~ Parenting:

#### Figure 21. Parenting ~ WLEIS Breakdown

The above figures shows the comparison between WLEIS and its domains based on whether the Managers/ Supervisors are parents or not. The parenting seems to be a parameter for a higher Emotional Intelligence. The Managers who have children have achieved a higher grade than those who have not.

Domains	Parents	<b>No Parents</b>
SEA	5.79	5.58
OEA	5.30	5.53
UOE	5.59	5.82
ROE	5.35	4.71
WLEIS	5.51	5.41

Table 12.	Parenting ~	<b>WLEIS</b>	Domains
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In terms of numbers, the parenting gives a score of 5.51/7 (78.7% on percentage scale) which is a little bit higher than the score of the Managers who have not child/ children. The basic difference is noticed in the domain of Regulation Of Emotions (ROE). The ROE of Managers with children seems to be increased by 9.14% compared to the ROE of the Supervisors who have not. Parents have to be more flexible and ready to regulate their emotions because of their children. The raising of children provides the parents with the option to train and practice the ability of emotion regulation their whole life as the parents are called to face emotional challenges on daily basis.

It would be interesting a further investigation to be made regarding the WLEIS between the Mothers and Fathers Managers/ Supervisors:



Figure 22. Mothers vs Fathers ~ WLEIS Breakdown

Further to the above, the WLEIS score seems to be higher for Mothers than Fathers. An important gap is noted in the domain of Others' Emotion Appraisal (OEA) and Regulation Of Emotions (ROE). As it has been already mentioned, the maternity is one of the basic parameters that discriminates the women –and especially the mothers- from men regarding the ability of empathy. Giving birth to a child leads the mothers' biology to secrete hormones that boost the skills of empathy and self-control. Hence, they increase the overall score of WLEIS and seems to be more Emotional Intelligent.

Summary:



#### Figure 23. WLEIS ~ Summary

Figure 30 summarizes all the scores included in this section so far. First comes the Managers from public sector and then Mothers. Freelancers and Married Managers/ Supervisors are in the third position. On the other hand, the lowest score is noticed for Managers who work for the same employer for  $6 \sim 9$  years and for those who their family income is not higher than the amount of  $1,000 \in$ .

# 4.2.1 Psycho-Management Perspective

As researcher's try is to define and analyze the Psycho-Management characteristics (see § 2.8), we will proceed with the investigation and study about the:

- *Empathy* (OEA), and
- *Social skills*, which is related to ROE domain as these skills influence the communication with others.

#### Empathy:

The ability of Others' Emotions Appraisal is the foundation of empathy - the ability to share someone else's feelings or experiences by imagining what it would be like to be in that person's situation (CambridgeDictionary, 2017).

In terms of OEA, the Managers/ Supervisors achieved the grade of 5.40/7 (77.1% on percentage scale) which is very close with the overall grade for EI (via WLEIS) within Managers which is 5.46/7 (78% on percentage scale). The below figure presents the aforementioned ability for each group of Managers/ Supervisors as they were categorized previously:



Figure 24. Empathy within Managers/ Supervisors

According to the above figure, the ability of empathy seems to have been improved and used by the Managers of public sector (5.79/7 - 82%) on percentage scale). Second place belongs to Mothers and Female Managers who achieve a grade of 5.59/7 (79.9% on percentage scale).

On the other hand, the score of the OEA for Fathers and Male Managers/ Supervisors was the lowest. Fathers got a score of 5.11/7 (73% on percentage scale) and Male Managers a score of 5.24/7 (74.9% on percentage scale). Thus, empathy seems to be higher for women than men. The reason is the same as it was explained in § 4.2.

#### Social Skills:

According to (OxfordDictionaries, 2017), Social skills are the "Skills required for successful social interaction". The ability of someone to regulate his/ her emotions, and so, adjust them depending on the situation that he/ she has to deal with, is the basic parameter for the optimum interaction. Communicating with others means diversity of messages, information and feelings. The last influences the humans' behavior and leads them to effective or non-effective interaction.



Figure 25. Social Skills within Managers/ Supervisors

The highest score is noticed within the Mothers Managers having achieved a grade of 5.64/7 (80.1% on percentage scale). The lowest score belongs to the Managers/ Supervisors with no children (4.71/7 - 67.3% on percentage scale).

Combining the two factors of Emotional Intelligence which focused on Psycho-Management style perspective, Female Managers/ Supervisors with children (Mothers) seems to be the group of those who could apply this style of management effectively.

### **4.3 SUBORDINATES**

In this paragraph, the researcher provides all the results about the subordinates who work in departments of various Greek companies or organization, or they are self-employed and report to Manager/ Supervisor.

As it has been already described in § 3.2.3, the questionnaire for recording the subordinates satisfaction was made through the Employee Satisfaction Inventory (ESI).

#### General:

The sample consists of 150 (a hundred fifty) employees who do not hold a Manger or Supervisor's position. The overall grade of ESI between the Greek Subordinates is 3.32/5 (66.4% on percentage scale).



The distribution of ESI is presented in the following figure:

Figure 26. Employee Satisfaction Inventory (ESI) Distribution

In accordance with the figure 33, the employees seem to be satisfied with their Managers/ Supervisors (3.95/5 - 79%) on percentage scale), and therefore, with the management style they apply. On the other hand, it is noticeable that the same employees are not very satisfied with their salary (2.82/5 - 56.4%) on percentage scale) and consider that the promotion opportunities are not easy (2.60/5 - 52%) on percentage scale) as the domain of promotion has the last place compared to all the domains consist of ESI.



*ESI* ~ *Female Subordinates:* 

Figure 27. ESI Distribution for Female Subordinates

The Female employees mentioned that they are more satisfied with their Managers/ Supervisors (3.89/5 - 77.8%) on percentage scale) compared to the opportunities of promotions (2.61/5 - 52.2%) on percentage scale) that may have. Their salary seems not to keep them satisfied as they scored a grade of 2.82/5 (56.4%) on percentage scale).



ESI ~ Male Subordinates:

Figure 28. ESI Distribution for Male Subordinates

Male employees are very satisfied with their Managers/ Supervisors with a score of 4.06/5 (81.2% on percentage scale). However, as the Female employees, they are not satisfied with the promotion opportunities (2.59/5 - 51.8% on percentage scale) and their salary (2.8/5 - 56% on percentage scale).

	Female Subordinates	Male Subordinates
Working Conditions	3.76	3.87
Salary	2.82	2.80
Promotions	2.61	2.59
Work	3.77	3.48
Manager/Supervisor	3.89	4.06
Organization	3.05	3.08
ESI	3.32	3.31

Table 13. Comparison Female ~ Male ESI

According to table 12, the ESI seems to be the same for both Female and Male Subordinates. In more detail, Male employees are more satisfied by their Supervisors' management than the Female subordinates.

In general, there is a convergence between Male and Female employees regarding their job (incl. employer and organization) satisfaction.





Figure 29. ESI Distribution for Subordinates with Family Income <1,000€

The subordinates with a monthly Family Income less than 1,000€ mention that they are more satisfied with their Manager/ Supervisor (77% on percentage scale) than the other domains of ESI. Particularly, three of the domains present a score lower than 3 (three). Salary, Promotion and Organization (company) are the domains that keep them less satisfied.



*Figure 30. ESI Distribution for Subordinates with Family Income between 1,000€ ~ 2,000€* 

For the employees with Family Income between 1,000 and 2,000 euro, it is noticed a minor increase for the satisfaction regarding their Manager/ Supervisor and Organization.



Figure 31. ESI Distribution for Subordinates with Family Income >2,000€

Subordinates with high monthly Family Income feel more satisfaction for their working conditions, the work itself and their Managers/ Supervisors than the previous groups. The following table compares the three different groups with the different monthly Family Income:

	Family Income (monthly) in €				
	<1,000 1,000-2,000 >2,000				
Working Conditions	3.55	3.89	4.05		
Salary	2.92	2.72	2.8		
Promotions	2.49	2.61	2.79		
Work	3.46	3.72	4		
Manager/Supervisor	3.85	3.99	4.02		
Organization	2.96	3.03	3.3		
ESI	3.21	3.33	3.49		

#### Table 14. ESI Comparison based on the Family Income

According to the above table, the ESI presents an increasing tendency as the Family Income increases. Possibly, the employees who do not work only for the salary which their employer/ company offers, they are more satisfied as they are able and freer to focus on the kind of work, the relevant conditions and build good relationships with their direct Supervisor and company/ organization. It is very distinguishing that the employees with the higher family income present an increase of 10% for the domains of Working Conditions and Work compared to those who have an income less than  $1,000 \in$ .

#### ESI ~ Years of Employment:

The following figure shows the ESI course related to the years of employment for the same employer/ company:



Figure 32. ESI in relation with the Years of Employment

Based on the figure 39, the ESI presents a slight decrease with the years of employment. The satisfaction for the first years of employment has a score of 3.31/5 (66.2% on percentage scale) which decreases through the years (3.23/5 - 64.6%). The satisfaction regarding the direct management seems to be constant in contrast with the salary and promotion opportunities which are decreased.

	Years of Employment					
	<3	3-6	6-9	>9		
Working Conditions	3.67	3.88	3.94	3.77		
Salary	2.90	2.77	2.9	2.74		
Promotions	2.63	2.81	2.84	2.33		
Work	3.64	3.54	3.87	3.71		
Manager/Supervisor	3.91	4.05	3.94	3.91		
Organization	3.10	3.26	3.11	2.89		
ESI	3.31	3.39	3.43	3.23		

Table 15. ESI and its Domains in relation with the Years of Employment

It is noticed that the salary and promotion satisfaction for each category have the lowest scores than the other domains.

#### *ESI* ~ *Sector Of Employment:*

The Figure 40 and Table 15 provides the results and their comparison regarding the ESI and its domains regarding the Sector of Employment. Freelancers present a score of 3.39/5 (67.8% on percentage scale), the private employees 3.32/5 (66.4% on percentage scale) and the public subordinates 3.29/5 (65.8% on percentage scale). All employees seem to be satisfied in the same level.

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Figure 33. ESI based on the Sector of Employment

It is noticed that the public employees are not satisfied with the organization they work for (i.e. the State of Greece) in comparison with the others subordinates.

The same is noticed for the promotions opportunities. On the other hand, the private employees seem not to be satisfied as the freelancers and public employees regarding the nature of the work (job description).

	Sector Of Employment				
	Public	Private	Freelance		
Working Conditions	3.73	3.81	3.74		
Salary	2.75	2.83	2.71		
Promotions	2.58	2.60	2.67		
Work	4.02	3.60	4.07		
Manager/Supervisor	3.83	3.96	4.07		
Organization	2.80	3.11	3.07		
ESI	3.29	3.32	3.39		

Table 16. Comparison ESI and its domains within Sector of Employment

#### ESI ~ Educational Background:

Further to the below figure, the subordinates seems not be satisfied for their Manager/ Supervision in comparison with those who do not hold a Master and/or PhD. This may explained due to the fact that some of the Managers/ Supervisors are not certified with a Master/ PhD and they manage employees with high education certification. Hence, they feel disadvantaged since they have more qualifications.



Figure 34. ESI and Higher Education

In terms of ESI, the Subordinates have the score of 3.33/5 (66.6% on percentage scale) for those who have no Master/PhD and 3.30/5 (66% on percentage scale) for those who have.



ESI ~ Marital Status:

Figure 35. ESI in relation with Marital Status
Figure 42 shows the score of ESI domains for those who are Single<sup>4</sup> and Married. The Married subordinates seem to be more satisfied than Single. The family may lead the employees to seize the opportunities to see the positive side of their work as their daily routine is full of challenges.

	<b>Marital Status</b>		
Domains	Single	Married	
Working Conditions	3.67	3.98	
Salary	2.81	2.83	
Promotion	2.62	2.58	
Work	3.58	3.83	
Manager/Supervisor	3.84	4.11	
Organization	2.92	3.28	
ESI	3.24	3.44	

Table 17. ESI and its domains for Single and Married Subordinates

If we see the numbers, it is noticed that the Married employees state that they are more satisfied (4.11/5 - 82.2%) on percentage scale) than the Single (3.84/5 - 76.8%) on percentage scale) regarding their Manager/ Supervisor. In addition, the same for the Working Conditions and Organization.



ESI ~ Marital Status:

#### Figure 36. ESI and Parenting

Based on the figure 43 and table 17, parenting seems not to be a parameter which causes differences for the employees' satisfaction. The ESI for both is about 3.3; 3.33/5 (66.6% on percentage scale) for those who have not children and 3.29/5 (65.8% on percentage scale) for those who are parents.

<sup>&</sup>lt;sup>4</sup> In Single group includes the divorced Managers/ Supervisors as the sample of those was very limited.

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	Parenting		
Domains	No	Yes	
Working Conditions	3.78	3.82	
Salary	2.8	2.84	
Promotion	2.75	2.35	
Work	3.64	3.75	
Manager/Supervisor	3.98	3.89	
Organization	3.04	3.09	
ESI	3.33	3.29	

Table 18. ESI and Parenting

Summary:



Figure 37. ESI Summary

In general, the most satisfied employees seem to be the Male subordinates with score of 3.87/5 (77.4% on percentage scale). On the other hand, the less satisfied are the subordinates with a monthly Family Income less than 1,000€ which scored 3.21/5 (64.2% on percentage scale).

It is easily understandable that employees with low family income are dependent on their work and so any disadvantage of their workplace should be handled accordingly without risking their job.

The next figure presents the score of Manger/ Supervisor satisfaction which the employees feel in various Greek departments. According to this, the Married employees are more satisfied (4.11/5 - 82.2%) on percentage scale) compared to those who have a Master and/or PhD (3.77/5 - 75.4%) on percentage scale).



Figure 38. Satisfaction due to Manager/ Supervisor

# 4.4 ANOVA TEST

In this section, ANOVA test was carried out using the data collected. The test was made in order to investigate a possible correlation of Managers' Emotional Intelligence with the gender, age, family income, years of employment in the same employer, marital status, parenting and educational level of them.

It is investigated the possible correlation of Empathy – interpreted via OEA indicator – and Social Skills – interpreted via ROE indicator – with various combinations between gender, age, marital status, parenting, position (whether Managers have direct Supervisor), sector and years of employment, educational background and monthly family income.

It was considered necessary to be investigated the impact of EI Managers to their subordinates. Thus, it is examined the correlation of Subordinates satisfaction – from their direct Manager via the relevant ESI domain – according to the EI, Empathy (OEA) and Social Skills (ROE) with the gender, age, educational background, monthly family income, years and sector of employment, marital status, parenting and Manager's position (whether Managers have direct Supervisor).

# 4.4.1 Greek Managers EI's

Hypothesis A (HA): The Greek Managers' gender, age, marital status, monthly family income, parenting (if they have children), educational background, position (if they have direct Supervisor), sector of employment, years of employment and their combinations influence their Emotional Intelligence.

We performed a two-way ANOVA by using SPSS. The test was carried out to examine whether there is a connection between the Managers' Emotional Intelligence and the following factors and their combinations:

- 1. Gender Age (H1)
- 2. Marital Status Monthly Family Income (H2)

- 3. Age Parenting (whether they have children or not) (H3)
- 4. Educational Background Parenting (H4)
- 5. Educational background Monthly Family Income (H5)
- 6. Sector of Employment Monthly Family Income (H6)
- 7. Sector of Employment Educational Background (H7)
- 8. Gender Sector of Employment (H8)
- 9. Position (whether they have direct Supervisor) Parenting (H9)
- 10. Gender Parenting (H10)
- 11. Gender Educational Background (H11)
- 12. Years of Employment Parenting (H12)

The results show that the combination of Managers' educational background and monthly family income (H5 – F-Statistic=4.557/P-Value=0.037) and Sector of Employment itself (H7 – F-Statistic=1.331/P-Value=0.05) are statistically significant (P-Value < 0.05), and therefore, the Greek Managers' Emotional Intelligence is influenced by them.

## 4.4.2 Greek Managers Empathy

# Hypothesis B1 (HB1):The Greek Managers' gender, age, marital status, monthly family<br/>income, parenting (if they have children), position (if they have<br/>direct Supervisor), sector of employment, educational background<br/>and their combinations influence their Empathy.

At this point, we tried to investigate whether the Empathy – through the OEA indicator – is correlated with the following parameters: gender, age, marital status, monthly family income, parenting (whether the Managers/ Supervisors have children or not), position (whether the Managers have direct Supervisor), sector of employment and educational background.

The correlations examined regarding the Managers' Empathy through SPSS using the two-way ANOVA test, were the following:

- 1. Gender Age (H13)
- 2. Marital Status Monthly Family Income (H14)
- 3. Age Parenting (whether they have children) (H15)
- 4. Position (whether they have direct Supervisor) Parenting (H16)
- 5. Gender Parenting (H17)
- 6. Sector of Employment Gender (H18)
- 7. Sector of Employment Educational Background (H19)
- 8. Gender Educational Background (H20)

The ANOVA test leads us to the result that the combination of position and parenting (H16 – F-Statistic=7.780/P-Value=0.007), gender itself (H18, H20 – F-Statistic>4 & P-Value<0.05) are statistically significant as soon as the P-Value is smaller than 5%, and therefore, the Greek Managers' Emotional Intelligence is influenced by them.



Figure 39. Estimated Marginal Means of Empathy regarding the factors of Position and Parenting

If we study further the correlation the combination of position and parenting with the Managers' Empathy, according to figure 39, it seems that the Empathy for those who do not have children and direct Supervisor is higher than the Mangers who are not parents and have direct Supervisor. In contrast, the Managers' Empathy who do not have children and direct Supervisor is lower than those Mangers who are parents and have direct Supervisor.

## 4.4.3 Greek Managers Social Skills

#### Hypothesis B2 (HB2): The Greek Managers' gender, age, position (if they have direct Supervisor), parenting (if they have children), sector of employment, educational background, years of employment, monthly family income and their combinations influence their Social Skills.

As it has been already mentioned, further investigation is carried out regarding the PsychoManagemet factors as defined in § 2.8. In previous paragraph 4.3.1, it was examined the Empathy – through the OEA indicator – is correlated with the following parameters: gender, age, marital status, monthly family income, parenting (whether the Managers/ Supervisors have children or not), position (whether the Managers have direct Supervisor), sector of employment and educational background. The same will be examined in this paragraph for the factor of Social Skill (Regulation of Emotions).

The correlations tested regarding the Managers' Social Skills through SPSS using the two-way ANOVA test, were the following:

- 1. Gender Age (H21)
- Position (whether they have direct Supervisor) Parenting (whether they have children) (H22)

- 3. Sector of Employment Parenting (H23)
- 4. Educational Background Sector of Employment (H24)
- 5. Years of Employment Parenting (H25)
- 6. Parenting Educational Background (H26)
- 7. Age Parenting (H27)
- 8. Gender Parenting (H28)
- 9. Monthly Family Income Educational Background (H29)

The ANOVA tests results show that the Managers' Social Skills are correlated with the parenting (H23, H25, H26, H28 – F-Statistic>4 & P-Value<0.05), sector of employment itself (H24 – F-Statistic=3.561/P-Value=0.035) and the combination of monthly family income and educational background (H29 – F-Statistic=5.606/P-Value=0.021) as they are statistically significant as soon as the P-Value is smaller than 5%.

## 4.4.4 Satisfaction of Employees/Subordinates

In this paragraph, we will investigate – through the ANOVA test – if the Managers' Emotional Intelligence, Empathy and Social Skills in conjunction with the factors of gender, age, educational background, monthly family income, years of employment, marital status, parenting (whether the Managers are parents or not), sector of employment and their position (whether the Managers have direct Supervisor or not) may influence the Subordinates satisfaction as it was measured through the ESI questionnaire and, particularly, based on the questions 17 to 20.

## 4.4.4.1 Subordinates Satisfaction in relation with Managers' EI

ANOVA tests were carried out for investigating the correlations of Subordinates Satisfaction from their Manager's EI and others factors as below:

Hypothesis C1 (HC1): The Greek Managers' EI and factors as: gender, age, educational background, monthly family income, years of employment, marital status, parenting (if they have children), sector of employment, and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.

After the ANOVA tests, we found out that there is no any kind of correlation between the fixed factors gender, age, educational background, monthly family income, years of employment, marital status, parenting (whether the Managers are parents or not), sector of employment and their position (whether the Managers have direct Supervisor or not) and EI that influences the Subordinates Satisfaction. Hence, we decided not to present the tables with the results to the reader as there were not fruitful. All the relevant outputs from ANOVA tests are included in the Appendix II of this thesis.

## 4.4.4.2 Subordinates Satisfaction in relation with Managers' Empathy

#### Hypothesis C2 (HC3): The Greek Managers' Empathy and factors as: gender, age, educational background, monthly family income, years of employment, marital status, parenting (if they have children), sector of employment, and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.

We performed a two-way ANOVA by using SPSS. The tests were carried out to examine whether there is a connection between the Subordinates' Satisfaction and the following factors and their combinations:

- 1. Empathy Gender (H39)
- 2. Empathy Age (H40)
- 3. Empathy Educational Background (H41)
- 4. Empathy Monthly Family Income (H42)
- 5. Empathy Years of Employment (H43)
- 6. Empathy Marital Status (H44)
- 7. Empathy Parenting (whether they have children) (H45)
- 8. Empathy Sector of Employment (H46)
- 9. Empathy Position (whether they have direct Supervisor) (H47)

Based on ANOVA tests results, it seems that empathy (H39, H41, H44, H45, H47 – F-Statistic>2 & P-Value<0.05), gender (H40 – F-Statistic=2.508/P-Value=0.017) are statistically significant as soon as the P-Value is smaller than 5% and therefore influence Subordinates' Satisfaction.

## 4.4.4.3 Subordinates Satisfaction in relation with Managers' Social Skills

#### Hypothesis C3 (HC3): The Greek Managers' Social Skills and factors as: gender, age, educational background, monthly family income, years of employment, marital status, parenting (if they have children), sector of employment, and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.

A two-way ANOVA tests were carried out for investigating the possible connection of Subordinates Satisfaction with Social Skills and the fixed factors as mentioned above. Hence, the following were examined in correlation with the Subordinates' Satisfaction:

- 1. Social Skills Gender (H48)
- 2. Social Skills Age (H49)
- 3. Social Skills Educational Background (H50)
- 4. Social Skills Monthly Family Income (H51)
- 5. Social Skills Years of Employment (H52)
- 6. Social Skills Marital Status (H53)
- 7. Social Skills Parenting (whether they have children) (H54)
- 8. Social Skills Sector of Employment (H55)
- 9. Social Skills Position (whether they have direct Supervisor) (H56)

The ANOVA tests led us to the result that there is no any kind of correlation between the fixed factors gender, age, educational background, monthly family income, years of employment, marital status, parenting (whether the Managers are parents or not), sector of employment and their position (whether the Managers have direct Supervisor or not) and Social Skills that influences the Subordinates Satisfaction.

Therefore, it will not presented any further analysis regarding the above. All the relevant outputs from ANOVA tests are included in the Appendix II of this thesis.

# 4.4.5 Summary of ANOVA tests Results

This paragraph includes in summary tables the correlations of dependent and independent variables as were found previously<sup>5</sup>:

Emotional Intelligence						
Fixed Factors	Age & Gender	Marital Status & Family Income	Age & Parenting	Educational Background & Parenting	Educational Background & Family Income	Sector of Employment & Family Income
Correlation	Х	х	Х	Х	Educational Background*Family Income	х
Fixed Factors	Sector of Employment & Educational Background	Sector of Employment & Age	Position & Parenting	Gender & Parenting	Gender & Educational Background	Years of Employment & Parenting
Correlation	Sector Of Employment	Х	X	Х	х	X

Table 19. Emotional Intelligence with Fixed Factors - Correlations

The Managers' Emotional Intelligence are correlated with the combination of Educational Background with monthly Family Income and the Sector of Employment as it was examined in conjunction with the educational background.

				Empathy	7			
Fixed Factors	Age & Gender	Marital Status & Family	Age & Parenting	Sector of Employmen t & Educational	Sector of Employmen t & Gender	Position & Parenting	Gender & Parenting	Gender & Educational Background
Correlation	Х	X	Х	Х	Gender	Position* Parenting	Х	Gender

### Table 20. Empathy with Fixed Factors - Correlations

Based on the above table, Greek Managers' Empathy is correlated with their gender (as it was examined together with the sector of employment), the combination of position and parenting as well as the gender (s it was examined in conjunction with the educational background).

<sup>&</sup>lt;sup>5</sup> Green cells indicate that there is correlation and the factor(s) that influence(s) the dependent variable;

Social Skills									
Fixed Factors	Age & Gender	Gender & Parenting	Age & Parenting	Sector of Employment & Educational Background	Sector of Employment & Parenting	Position & Parenting	Educational Background & Parenting	Years of Employment & Parenting	Educational Background & Family Income
Correlati on	х	Gender*P arenting	Parenting *Age	Sector Of Employm ent	Parenting	x	Parenting	Parenting	Education al Backgrou nd*Famil y Income



Further to the above table, Managers' Social Skills seem to be correlated with the combinations of gender and parenting, age and parenting, educational background and monthly family income as well as with parenting itself (as it was tested in conjunction with the sector of employment, educational background and years of employment).

The researcher having gathered the aforementioned information, proceeded with the one-way ANOVA test for investigating the correlation of Social Skills (ROE) with the parenting (whether the Managers have children or not). The results are shown in the below table:

		ANOVA			
Social Skills					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.559	1	6.559	4.486	.038
Within Groups	90.659	62	1.462		
Total	97.218	63			

#### Table 22. Social Skills correlation with Parenting (ONE-WAY ANOVA)

**Parenting** (whether the Managers have children or not) provides a higher F- statistic (4.486) and the significance level (P-Value) is smaller than 0.05 (0.038). This means that the effect of being a Manager parent is statistically significant, and therefore, the Greek Managers' Social Skills is influenced by parenting.

Subordinates Satisfaction									
Fixed Factors	Empathy & Gender	Empathy & Age	Empathy & Educational Background	Empathy & Family Income	Empathy & Years of Employment	Empathy & Marital Status	Empathy & Parenting	Empathy & Sector of Employment	Empathy & Position
Correlation	Empathy	Empathy	Empathy	X	Х	Empathy	Empathy	Х	Empathy

Table 23. Subordinates Satisfaction in correlation with Manager's Empathy and Fixed Factors

The table 60 shows that there is a connection of Subordinates Satisfaction with their Managers' empathy. It seems that the empathy is the most basic factor that influences the employees' satisfaction.

The last statement was tested through the one-way ANOVA test and the relevant results are shown in the following table:

		ANOVA	L		
Satisfaction from M	lanager				
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21.721	12	1.810	2.681	.007
Within Groups	34.434	51	.675		
Total	56.155	63			

 Table 24. Subordinates' Satisfaction due to Manager in correlation with Manager's Empathy

 (ONE-WAY ANOVA)

**Empathy**, as independent variable, provides a higher F- statistic (2.681) and the significance level (P-Value) is smaller than 0.05 (0.004). This means that the effect of Managers' **empathy** is statistically significant, and therefore, the Subordinates Satisfaction is influenced as it was noticed and previously.

# 4.4 CASE STUDY

It was considered very useful and interesting to measure and study the Emotional Intelligence of Management and the relevant Employees satisfaction for a specific company.

The company is a sole shareholder company LLC. The hierarchy chart is as follows:



Figure 40. Hierarchy Chart of the Company studied

As it seems from the figure 47, the company consists of 1 (one) Manager, 1 (one) Supervisor and 5 (five) Subordinates.

According to the responses of the above, we collected the following information:



<u>Manager:</u>

Figure 41. Manager's WLEIS Breakdown

The Manager's WLEIS score is 5.31/7 (77% on percentage scale) having a grade of 5.75/7 (82.1% on percentage scale) for the domain of Others' Emotions Appraisal which reflects the ability of Empathy. The score of the Regulation Of Emotions – which is related to the Social Skills – is 4.25/7 (60.7% on percentage scale).

#### <u>Supervisor:</u>

The Supervisor's WLEIS score is 6/7 (85.7% on percentage scale) having a grade of 5.75/7 (82.1% on percentage scale) for the domain of Others' Emotions Appraisal (Empathy). The score of the Regulation Of Emotions is 5.25/7 (75% on percentage scale).



Figure 42. Supervisor's WLEIS Breakdown

It is noticeable that both of them – Manager and Supervisor – have a high score regarding their Emotional Intelligence and same score for Empathy. On the other hand, the Supervisor has a higher ROE than Manager.

At this point, it should be noted that the Supervisors has contact with the employees only for salary and procedural issues. The daily issues are managed by the Manager only and for specific cases the decision is made by both of them. Hence, the Subordinates filled out the questionnaires for the Manager's management.

#### Subordinates:

The employees of the company completed the ESI questionnaire. The overall score of ESI is shown in figure 50.

Based on the data, the Supervisor seems to be the more satisfied subordinate than the others. Before we proceed with any additional explanation is better to study further the other domains of ESI.



Figure 43. ESI for all Company's Subordinates



The figure 51 shows in detail all the relevant scores for each domain of ESI:

Figure 44. Employees Satisfaction for each domain

The satisfaction of employees due to their Manager seems to be basic factor which increases the overall score of ESI. The following diagram (fig. 52) presents only the score regarding the satisfaction of subordinates due to their direct Manager compared to the overall score of ESI.

As it has been mentioned, the overall ESI score is increased due to the high score of satisfaction of subordinates for their direct Manager; the relevant average is 4.29/5 (85.8% on percentage scale) and the ESI is 3.35/5 (67% on percentage scale).



Figure 45. Subordinates' Satisfaction due to Manager Vs ESI

As a summary and most important point, it is very essential to be investigated the connection/ relation of the ability of Manager's Empathy – interpreted by OEA – and Social Skills – expressed by ROE – with the overall score of ESI and, especially, with the indicator of the satisfaction of subordinates due to their direct Manager. Hence, using the hierarchy chart we can have an indication in terms of the Psycho-Management style:



Figure 46. Empathy/Social Skills in correlation with the SS<sup>6</sup>

<sup>&</sup>lt;sup>6</sup> SS: Subordinates Satisfaction due to their direct Manager

Further to the chart, it is noticeable that the Manager with a high OEA (Empathy) score of 82.1% keeps their direct reports satisfied.

The fact of the small number of subordinates cannot lead us in safe results. However, having taken into consideration the investigation of the correlations in previous paragraphs, the application of the Psycho-Management seems to be real and efficient.

As we studied the Psycho-Management application, it was considered necessary to evaluate how healthy the Manager's lifestyle is. In that respect, it would very useful to be provided a relevant questionnaire (http://www.bccancer.bc.ca/, 2017) in order to be filled out by the Manager for his healthy lifestyle assessment. Unfortunately, it was difficult to arrange a meeting with the Manager again. However, further to the initial discussion of researcher with him, the Manager's food habits seem to be in line with a healthy diet plan.

Managers who use and absorb the ability of Empathy in their Management style, they are able to keep their personnel satisfied. Hence, the overall performance and productivity of the company may be increased. This is something that needs further investigation.

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#### SECTION 5

## 5. CONCLUSION

Having taken into consideration the survey carried out for Greek Managers and Supervisors and their teams in various departments and companies located in Greece and the relevant results, it appears that the Greek Managers/ Supervisors do have a high Emotional Intelligence quote and a very good Empathetic ability.

The data analysis for Emotional Intelligence shows that the higher EI appeared within the Managers who work in Public Sector and those who are mothers. The statistical analysis, through the ANOVA tests, provided that the Emotional Intelligence is correlated with the:

- ✓ Sector of Employment and
- ✓ Combination of Educational Background and monthly Family Income

The research was conducted not only for collecting data related to Emotional Intelligence, but also, investigating and studying a new style of Management and its application: The **Psycho-Management**.

According to § 2.8, the new style of management suggested consists of the following basic features:

- > Empathy
- > Social skills &
- > Healthy lifestyle

Thus, in terms of Psycho-Management style, **Empathy** was found to be met within female – and Mothers – Managers. The statistical analysis led us to the correlation of **Empathy** with the:

- ✓ Gender,
- Parenting (whether the Managers have children or not) in conjunction with the position (whether the Managers have direct Supervisor or not).

The additional investigation for **Social Skills** – which was interpreted through the ability of Managers to regulate their emotions, as it is something needed during the communication – the Managers seem to be in a good level. Managers who are mothers have the first place among the others. From statistical analysis perspective, the **Social Skills** seem to be correlated with the:

- $\checkmark$  Parenting and its combination with gender and age,
- ✓ Sector of employment and
- ✓ Combination of educational background and monthly family income.

On the other hand, the Subordinates participated to this survey seem to be satisfied and especially with their Managers/ Supervisors' management. In further analysis, the **Empathy** is the basic feature of Managers that boosts the employees' satisfaction. This was crosschecked

through the qualitative and quantitative data. As mentioned in § 4.3 the Subordinates' Satisfaction due to their Manager/ Supervisor has the first place among the ESI domains. Moreover, the statistical analysis proves the correlation between the Subordinates' Satisfaction coming from their Manager with the ability of Manager's **Empathy**.

Clearly, the general management literature suggests that a manager's leadership style and competence is key to successful performance in business, and many studies have confirmed a correlation between these and the performance of organizations and companies (Turner & Muller, 2005). Hence, the chosen management system depends on the leadership. The implementation and further development of the Management Style followed lead the company/ organization to specific results which may affect the overall performance and/ or profits.

Our trial for finding a new management style which is based on Emotional Intelligence theories and models has motivated us to investigate further the management styles and systems. This field of research should always consider the human beings as basis. The companies and organizations consist of employees, namely humans. Every single individual can be influenced by a variety of parameters with impact on their daily life which includes the time spent within workplace. In that respect, the scientific community should not forget that research and development of management systems should include the human factor as the core of research, as the human factor is the one that definitely influences the development and profitability of a business.

According to this thesis results it might be assumed that Emotional Intelligence could be a characteristic that improves the management of a company/ department/ organization, however, some of its domains are able to be developed and improved separately and generate a new style of management of which application may lead the company or departments to higher performance and profitability – this could be a research field for another scientists.

Empathy and Social Skills are more of the basic abilities for Managers. The healthy life style – as it has been already stated – could offer a quality standard living and therefore a physical balance. All these parameters should be improved and expressed by each single person. The application of the aforementioned in a management style may increase the overall companies' productivity; the absorption of them from everyone can lead the whole world to a better life.

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SECTION 6

# 6. DISCUSSION – FUTURE WORK

The sciences of Psychology, Economics and Neuroscience may have a common field of research. Apart from Neuroeconomics ( $\S$  2.7), we tried to combine these sciences for birthing a new management style.

**Psycho-Management** is a new proposal for Organizations and Companies that wish to operate through the collaboration of mental and physical skills. According to Daniel Kahneman (Kahneman, 2012), *Utility Theory makes logical assumptions of economic rationality that do not reflect people's actual choices, and does not take into account cognitive biases.* That means that when a Manager or Supervisor is called to manage relations and reactions between personnel, the decision making is influenced by many various parameters. Researcher's intention – of this thesis – was to mix skills and parameters from different sciences in order to create a new management style that may apply to any kind of business and any kind of Manager for being able to improve the necessary skills.



Figure 47. Psycho-Management: The New proposed Management Style

Figure 54 presents this new style of management and all the relevant factors which affect this management system. This scheme shows that it is necessary – after the implementation of this management style – a constant measurement of employees' satisfaction and the relevant results to be taken into consideration. The Subordinates' Satisfaction may influence (additional research should be conducted) their performance and productivity which are connected with company/organization's profitability. The feedback is major action as the parameters of this management style are fully interconnected interdependent.

This proposal, as a new trend, has to be investigated further and deeply in order to be able to understand how - and if - this scheme works and what are the results on economic basis. Hence, a new field of research is open for scientists from Psychology, Economics and Medicine (Neuroscience) - and their cooperation - for seeking findings that verify the new proposed model of management.

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#### **APPENDICES**

## APPENDIX I

In this appendix will present the questionnaires distributed for the data collection. Initially, it was asked from the respondents to fill out some personal and demographic details, as below:

Π	αρακαλώ, σημειώστε <b>x</b>	σε μία μόνο από	τις παρακάτω δυνατές προτάσεις.
Φύλο: Ηλικία:	Γυναίκα		Άνδρας
Επίπεδο Εκπ	αίδευσης:		Υποχρεωτική Εκπαίδευση Λύκειο ΑΕΙ ΤΕΙ ΙΕΚ
Ανώτερες Σπ	τουδές		Μεταπτυχιακό Διδακτορικό
Μηνιαίο Οικ	κογενειακό Εισόδημα:		έως 500,00 € 501,00 € έως 1.000,00 € 1001,00 € έως 2.000,00 € πάνω από 2.000,00 €
Χρόνια Απας	σχόλησης στην ίδια υπ	ηρ 	έως 3 3 ~ 6 6 ~ 9 9 <
Οικογενειακ	ή Κατάσταση:		Άγαμος/η Έγγαμος/η Διαζευγμένος/η Χήρος/α
Αριθμός Τέκ	νων:		
Είδος Απασχ	ώλησης:		Δημόσιος Υπάλληλος Ιδιωτικός Υπάλληλος Ελεύθερος Επαγγελματίας
Θέση στην ε	πιχείρηση*:		Προϊστάμενος Υφιστάμενος Και τα 2

\* Αν κατέχετε την θέση προϊσταμένου παρακαλώ όπως συμπληρώσετε το Q1, αν έχετε θέση υφιστι Αν είστε σε θέση Προϊσταμένου ΚΑΙ Υφισταμένου συμπληρώστε και τα 2 (Q1

#### Wong and Law Emotional Intelligence Scale

According to Wong and Law (Wong & Law, 2002), the questionnaire distributed for measuring the Emotional Intelligence extracted by their relevant article – in appendix A.1:

#### Appendix A. Emotional intelligence and emotional labor items<sup>7</sup>

#### A.1. Emotional intelligence items

Self-emotion appraisal (SEA)

- 1. I have a good sense of why I have certain feelings most of the time.
- 2. I have good understanding of my own emotions.
- 3. I really understand what I feel.
- 4. I always know whether or not I am happy.

#### Others' emotion appraisal (OEA)

- 5. I always know my friends' emotions from their behavior.
- 6. I am a good observer of others' emotions.
- 7. I am sensitive to the feelings and emotions of others.
- 8. I have good understanding of the emotions of people around me.

#### Use of emotion (UOE)

- 9. I always set goals for myself and then try my best to achieve them.
- 10. I always tell myself I am a competent person.
- 11. I am a self-motivated person.
- 12. I would always encourage myself to try my best.

#### Regulation of emotion (ROE)

- 13. I am able to control my temper and handle difficulties rationally.
- 14. I am quite capable of controlling my own emotions.
- 15. I can always calm down quickly when I am very angry.
- 16. I have good control of my own emotions.

As far as the *Employees Satisfaction Inventory (ESI)*, the questionnaire was provided by Professor Athanasios Koustelios (University of Thessaly) for our research purposes.

<sup>&</sup>lt;sup>7</sup> The Greek questionnaire has been adjusted by adjusted by Pr. K. Kafetsios (Kafetsios & Zampetakis, 2008)

# APPENDIX II

ANOVA Tests Results

The statements which were studied are:

<i>Hypothesis 1 (H1):</i>	<i>The Greek Managers' gender and age influence their Emotional Intelligence.</i>			
Hypothesis 2 (H2):	The Greek Managers' marital status and monthly family income affect their Emotional Intelligence.			
Hypothesis 3 (H3):	The Greek Managers' age and parenting affect influence their Emotional Intelligence.			
Hypothesis 4 (H4):	The Greek Managers' educational background and parenting affect their Emotional Intelligence.			
Hypothesis 5 (H5):	The Greek Managers' educational background and monthly family income influence their Emotional Intelligence.			
Hypothesis 6 (H6):	The Greek Managers' sector of employment and monthly family income affect their Emotional Intelligence.			
Hypothesis 7 (H7):	The Greek Managers' sector of employment and educational background influence their Emotional Intelligence.			
Hypothesis 8 (H8):	The Greek Managers' gender and sector of employment affect their Emotional Intelligence.			
Hypothesis 9 (H9):	The Greek Managers' position (if they have direct Supervisor) and parenting influence their Emotional Intelligence.			
Hypothesis 10 (H10):	The Greek Managers' gender and parenting affect their Emotional Intelligence.			
Hypothesis 11 (H11):	The Greek Managers' gender and educational background influence their Emotional Intelligence.			
Hypothesis 12 (H10):	The Greek Managers' years of employment and parenting affect their Emotional Intelligence.			

As it has been stated in paragraph 2.8, researcher's try to define the term of Psycho-Management and its impact, the aspects of Empathy and Social skills will be expressed through the measurements of Others' Emotions Appraisal (OEA) and Regulation Of Emotions (ROE) respectively. Hence, the hypotheses will be investigated are:

#### For Empathy:

*Hypothesis 13 (H13):* The Greek Managers' gender and age influence their Empathy.

Hypothesis 14 (H14):	The Greek Managers' marital status and monthly family income affect their Empathy.
Hypothesis 15 (H15):	The Greek Managers' age and parenting affect influence their Empathy.
Hypothesis 16 (H16):	The Greek Managers' position (if they have direct Supervisor) and parenting affect their Empathy.
Hypothesis 17 (H17):	The Greek Managers' gender and parenting influence their Empathy.
Hypothesis 18 (H18):	The Greek Managers' sector of employment and gender affect their Empathy.
Hypothesis 19 (H19):	The Greek Managers' sector of employment and educational background influence their Empathy.
Hypothesis 20 (H20):	The Greek Managers' gender and educational background affect their Empathy.
For Social Skills:	
Hypothesis 21 (H21):	The Greek Managers' gender and age influence their Social Skills.
Hypothesis 22 (H22):	The Greek Managers' position (if they have direct Supervisor) and parenting affect their Social Skills.
Hypothesis 23 (H23):	The Greek Managers' sector of employment and parenting affect influence their Social Skills.
Hypothesis 24 (H24):	The Greek Managers' educational background and sector of employment affect their Social Skills.
Hypothesis 25 (H25):	The Greek Managers' years of employment and parenting influence their Social Skills.
Hypothesis 26 (H26):	The Greek Managers' parenting and educational background affect their Social Skills.
Hypothesis 27 (H27):	The Greek Managers' age and parenting influence their Social Skills.
Hypothesis 28 (H28):	The Greek Managers' gender and parenting affect their Social Skills.
Hypothesis 29 (H9):	The Greek Managers' monthly family income and educational background influence their Social Skills.

This thesis will not limited to the aforementioned investigation only. Researcher's intention is to investigate the impact of the EI Managers to their subordinates/ employees. Therefore, we will try to verify the below hypotheses:

Hypothesis 30 (H30):	The Greek Managers' EI and gender influence their direct Subordinates' satisfaction.
Hypothesis 31 (H31):	The Greek Managers' EI and age affect their direct Subordinates' satisfaction.
Hypothesis 32 (H32):	The Greek Managers' EI and educational background influence their direct Subordinates' satisfaction.
Hypothesis 33 (H33):	The Greek Managers' EI and monthly family income affect their direct Subordinates' satisfaction.
Hypothesis 34 (H34):	The Greek Managers' EI and years of employment influence their direct Subordinates' satisfaction.
Hypothesis 35 (H35):	The Greek Managers' EI and marital status affect their direct Subordinates' satisfaction.
Hypothesis 36 (H36):	The Greek Managers' EI and parenting influence their direct Subordinates' satisfaction.
Hypothesis 37 (H37):	The Greek Managers' EI and sector of employment affect their direct Subordinates' satisfaction.
Hypothesis 38 (H38):	The Greek Managers' EI and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.
Hypothesis 39 (H39):	The Greek Managers' Empathy and gender influence their direct Subordinates' satisfaction.
Hypothesis 40 (H40):	The Greek Managers' Empathy and age affect their direct Subordinates' satisfaction.
Hypothesis 41 (H41):	The Greek Managers' Empathy and educational background influence their direct Subordinates' satisfaction.
Hypothesis 42 (H42):	The Greek Managers' Empathy and monthly family income affect their direct Subordinates' satisfaction.
Hypothesis 43 (H43):	The Greek Managers' Empathy and years of employment influence their direct Subordinates' satisfaction.
Hypothesis 44 (H44):	The Greek Managers' Empathy and marital status affect their direct Subordinates' satisfaction.

Hypothesis 45 (H45):	<i>The Greek Managers' Empathy and parenting influence their direct Subordinates' satisfaction.</i>
Hypothesis 46 (H46):	The Greek Managers' Empathy and sector of employment affect their direct Subordinates' satisfaction.
Hypothesis 47 (H47):	The Greek Managers' Empathy and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.
Hypothesis 48 (H48):	<i>The Greek Managers' Social Skills and gender influence their direct Subordinates' satisfaction.</i>
Hypothesis 49 (H40):	The Greek Managers' Social Skills and age affect their direct Subordinates' satisfaction.
Hypothesis 50 (H50):	The Greek Managers' Social Skills and educational background influence their direct Subordinates' satisfaction.
Hypothesis 51 (H51):	The Greek Managers' Social Skills and monthly family income affect their direct Subordinates' satisfaction.
Hypothesis 52 (H52):	The Greek Managers' Social Skills and years of employment influence their direct Subordinates' satisfaction.
Hypothesis 53 (H53):	The Greek Managers' Social Skills and marital status affect their direct Subordinates' satisfaction.
Hypothesis 54 (H54):	The Greek Managers' Social Skills and parenting influence their direct Subordinates' satisfaction.
Hypothesis 55 (H55):	The Greek Managers' Social Skills and sector of employment affect their direct Subordinates' satisfaction.
Hypothesis 56 (H56):	The Greek Managers' Social Skills and position (if they have direct Supervisor) influence their direct Subordinates' satisfaction.

#### **SPSS RESULTS:**

#### (H1)

#### **Between-Subjects Factors**

		Value Label	Ν
Gender	.00	Male	34
	1.00	Female	30
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6

#### **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.122ª	7	.303	.678	.689
Intercept	727.599	1	727.599	1628.410	.000
Gender_	.180	1	.180	.403	.528
Group_Of_Ages	.177	3	.059	.132	.940
Gender_ * Group_Of_Ages	1.620	3	.540	1.209	.315
Error	25.022	56	.447		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .078 (Adjusted R Squared = -.037)

## **Profile Plots**



(H2)

#### **Between-Subjects Factors**

		Value Label	Ν
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
	3.00	> 2000	25
Marital Status	.00	Single	23
	1.00	Married	41

#### **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.166ª	7	.309	.694	.677
Intercept	808.622	1	808.622	1812.924	.000
Family_Income	.194	3	.065	.145	.932
Marital_Status	.181	1	.181	.405	.527
Family_Income * Marital_Status	.751	3	.250	.561	.643
Error	24.978	56	.446		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .080 (Adjusted R Squared = -.035)

## **Profile Plots**



(H3)

#### **Between-Subjects Factors**

		Value Label	Ν
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35

#### **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.611ª	5	.322	.732	.602
Intercept	986.377	1	986.377	2240.674	.000
Group_Of_Ages	.522	3	.174	.395	.757
Parenting	.017	1	.017	.038	.845
Group_Of_Ages * Parenting	1.111	1	1.111	2.524	.118
Error	25.532	58	.440		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .059 (Adjusted R Squared = -.022)


Non-estimable means are not plotted

## (H4)

### **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	28
	1.00	Yes, I have kid(s)	35
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

## **Tests of Between-Subjects Effects**

#### Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.298ª	3	.099	.221	.882
Intercept	1805.820	1	1805.820	4010.090	.000
Parenting	.123	1	.123	.273	.603
Higher_Education	.058	1	.058	.128	.721
Parenting * Higher_Education	.113	1	.113	.251	.618
Error	26.569	59	.450		
Total	1911.993	63			
Corrected Total	26.867	62			

a. R Squared = .011 (Adjusted R Squared = -.039)



## (H5)

#### **Between-Subjects Factors**

		Value Label	Ν
Higher Education	.00	No Master	36
	1.00	Master/PhD	27
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
	3.00	> 2000	24

### **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3.080ª	5	.616	1.476	.212
Intercept	1247.346	1	1247.346	2988.946	.000
Higher_Education	.011	1	.011	.027	.869
Family_Income	1.188	3	.396	.949	.423
Higher_Education * Family_Income	1.902	1	1.902	4.557	.037
Error	23.787	57	.417		
Total	1911.993	63			
Corrected Total	26.867	62			

a. R Squared = .115 (Adjusted R Squared = .037)



Higher Education

Non-estimable means are not plotted

## (H6)

<b>Between-Sub</b>	iects Factors

		Value Label	Ν
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
	3.00	> 2000	25
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22

## **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.877ª	9	.542	1.314	.252
Intercept	762.445	1	762.445	1849.011	.000
Family_Income	.380	3	.127	.307	.820
Sector_Of_Employment	1.182	2	.591	1.433	.248
Family_Income * Sector_Of_Employment	1.931	4	.483	1.171	.334
Error	22.267	54	.412		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .180 (Adjusted R Squared = .043)



Non-estimable means are not plotted

## (H7)

### **Between-Subjects Factors**

		Value Label	Ν
Sector of Employment	.00	Public	5
	1.00	Private	36
	2.00	Freelance	22
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

## **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.834 <sup>a</sup>	5	.567	1.344	.259
Intercept	1015.099	1	1015.099	2407.529	.000
Sector_Of_Employment	2.663	2	1.331	3.158	.050
Higher_Education	.010	1	.010	.024	.878
Sector_Of_Employment * Higher_Education	.001	2	.001	.002	.998
Error	24.033	57	.422		
Total	1911.993	63			
Corrected Total	26.867	62			

a. R Squared = .105 (Adjusted R Squared = .027)



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## (H8)

### **Between-Subjects Factors**

		Value Label	Ν
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22
Gender	.00	Male	34
	1.00	Female	30

## **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.930ª	5	.586	1.404	.237
Intercept	1154.467	1	1154.467	2765.308	.000
Sector_Of_Employment	1.945	2	.973	2.330	.106
Gender_	.529	1	.529	1.268	.265
Sector_Of_Employment * Gender_	.868	2	.434	1.040	.360
Error	24.214	58	.417		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .108 (Adjusted R Squared = .031)



## (H9)

## **Between-Subjects Factors**

		Value Label	Ν
Manager or	.00	No	38
Manager/Subordinate	1.00	Yes	26
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35

## **Tests of Between-Subjects Effects**

#### Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.578ª	3	.193	.435	.729
Intercept	1804.394	1	1804.394	4075.327	.000
Postion	.244	1	.244	.551	.461
Parenting	.113	1	.113	.255	.616
Postion * Parenting	.135	1	.135	.305	.583
Error	26.566	60	.443		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .021 (Adjusted R Squared = -.028)



## (H10)

## **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Gender	.00	Male	34
	1.00	Female	30

## **Tests of Between-Subjects Effects**

#### Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.193ª	3	.398	.919	.437
Intercept	1857.102	1	1857.102	4293.685	.000
Parenting	.202	1	.202	.467	.497
Gender_	.011	1	.011	.024	.876
Parenting * Gender_	1.007	1	1.007	2.328	.132
Error	25.951	60	.433		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .044 (Adjusted R Squared = -.004)



## (H11)

### **Between-Subjects Factors**

		Value Label	Ν
Gender	.00	Male	33
	1.00	Female	30
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

## **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.155ª	3	.052	.114	.951
Intercept	1846.693	1	1846.693	4078.877	.000
Gender_	.008	1	.008	.018	.894
Higher_Education	.100	1	.100	.222	.639
Gender_ * Higher_Education	.058	1	.058	.127	.722
Error	26.712	59	.453		
Total	1911.993	63			
Corrected Total	26.867	62			

a. R Squared = .006 (Adjusted R Squared = -.045)



## (H12)

### **Between-Subjects Factors**

		Value Label	Ν
Years of Employment	.00	> 3	11
	1.00	3 - 6	14
	2.00	6 - 9	6
	3.00	> 9	33
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35

## **Tests of Between-Subjects Effects**

Dependent Variable: Emotional Intelligence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.350ª	6	.225	.497	.808
Intercept	1463.690	1	1463.690	3234.503	.000
Years_Of_Employment	.635	3	.212	.468	.706
Parenting	.238	1	.238	.527	.471
Years_Of_Employment * Parenting	.590	2	.295	.652	.525
Error	25.794	57	.453		
Total	1936.397	64			
Corrected Total	27.144	63			

a. R Squared = .050 (Adjusted R Squared = -.050)



Non-estimable means are not plotted

## (H13)

### **Between-Subjects Factors**

		Value Label	Ν
Gender	.00	Male	34
	1.00	Female	30
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6

### **Tests of Between-Subjects Effects**

#### Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.879 <sup>a</sup>	7	.411	.843	.557
Intercept	706.479	1	706.479	1447.980	.000
Gender_	.472	1	.472	.967	.330
Group_Of_Ages	.121	3	.040	.083	.969
Gender_ * Group_Of_Ages	.627	3	.209	.429	.733
Error	27.323	56	.488		
Total	1898.063	64			
Corrected Total	30.202	63			

a. R Squared = .095 (Adjusted R Squared = -.018)



## (H14)

### **Between-Subjects Factors**

		Value Label	Ν
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
	3.00	> 2000	25
Marital Status	.00	Single	23
	1.00	Married	41

### **Tests of Between-Subjects Effects**

#### Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.855ª	7	.265	.523	.813
Intercept	772.488	1	772.488	1526.038	.000
Family_Income	.408	3	.136	.268	.848
Marital_Status	.001	1	.001	.002	.962
Family_Income * Marital_Status	1.179	3	.393	.777	.512
Error	28.347	56	.506		
Total	1898.063	64			
Corrected Total	30.202	63			

a. R Squared = .061 (Adjusted R Squared = -.056)



## (H15)

### **Between-Subjects Factors**

		Value Label	Ν
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35

## **Tests of Between-Subjects Effects**

Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.389ª	5	.278	.559	.731
Intercept	964.611	1	964.611	1941.767	.000
Group_Of_Ages	.578	3	.193	.388	.762
Parenting	.684	1	.684	1.376	.246
Group_Of_Ages * Parenting	.006	1	.006	.012	.914
Error	28.813	58	.497		
Total	1898.063	64			
Corrected Total	30.202	63			

a. R Squared = .046 (Adjusted R Squared = -.036)



Non-estimable means are not plotted

## (H16)

## **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Manager or	.00	No	38
Manager/Subordinate	1.00	Yes	26

## **Tests of Between-Subjects Effects**

#### Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.628ª	3	1.543	3.620	.018
Intercept	1759.328	1	1759.328	4127.670	.000
Parenting	.236	1	.236	.554	.460
Position	.830	1	.830	1.948	.168
Parenting * Position	3.316	1	3.316	7.780	.007
Error	25.574	60	.426		
Total	1898.063	64			
Corrected Total	30.202	63			

a. R Squared = .153 (Adjusted R Squared = .111)



## (H17)

# **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Gender	.00	Male	34
	1.00	Female	30

## **Tests of Between-Subjects Effects**

#### Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.926 <sup>a</sup>	3	.975	2.146	.104
Intercept	1827.290	1	1827.290	4019.567	.000
Parenting	.446	1	.446	.982	.326
Gender_	1.553	1	1.553	3.416	.069
Parenting * Gender_	.423	1	.423	.931	.339
Error	27.276	60	.455		
Total	1898.063	64			
Corrected Total	30.202	63			

a. R Squared = .097 (Adjusted R Squared = .052)



## (H18)

### **Between-Subjects Factors**

		Value Label	Ν
Gender	.00	Male	34
	1.00	Female	30
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22

## **Tests of Between-Subjects Effects**

Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.031ª	5	.806	1.787	.130
Intercept	1125.946	1	1125.946	2495.297	.000
Gender_	1.896	1	1.896	4.202	.045
Sector_Of_Employment	1.451	2	.726	1.608	.209
Gender_ * Sector_Of_Employment	.463	2	.231	.512	.602
Error	26.171	58	.451		
Total	1898.063	64			
Corrected Total	30.202	63			

a. R Squared = .133 (Adjusted R Squared = .059)



## (H19)

### **Between-Subjects Factors**

		Value Label	Ν
Sector of Employment	.00	Public	5
	1.00	Private	36
	2.00	Freelance	22
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

## **Tests of Between-Subjects Effects**

Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.847ª	5	.569	1.203	.320
Intercept	954.366	1	954.366	2015.376	.000
Sector_Of_Employment	1.119	2	.560	1.182	.314
Higher_Education	.080	1	.080	.168	.683
Sector_Of_Employment * Higher_Education	1.719	2	.859	1.815	.172
Error	26.992	57	.474		
Total	1862.063	63			
Corrected Total	29.839	62			

a. R Squared = .095 (Adjusted R Squared = .016)



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## (H20)

### **Between-Subjects Factors**

		Value Label	Ν
Higher Education	.00	No Master	36
	1.00	Master/PhD	27
Gender	.00	Male	33
	1.00	Female	30

## **Tests of Between-Subjects Effects**

Dependent Variable: Empathy

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.556 <sup>a</sup>	3	.852	1.842	.149
Intercept	1793.594	1	1793.594	3878.583	.000
Higher_Education	.100	1	.100	.216	.644
Gender_	2.038	1	2.038	4.408	.040
Higher_Education * Gender_	.204	1	.204	.442	.509
Error	27.284	59	.462		
Total	1862.063	63			
Corrected Total	29.839	62			

a. R Squared = .086 (Adjusted R Squared = .039)



(H21)

### **Between-Subjects Factors**

		Value Label	Ν
Gender	.00	Male	34
	1.00	Female	30
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6

## **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.763ª	7	1.680	1.101	.375
Intercept	601.314	1	601.314	394.053	.000
Gender_	1.683	1	1.683	1.103	.298
Group_Of_Ages	1.929	3	.643	.421	.738
Gender_ * Group_Of_Ages	6.260	3	2.087	1.367	.262
Error	85.454	56	1.526		
Total	1734.938	64			
Corrected Total	97.218	63			

a. R Squared = .121 (Adjusted R Squared = .011)


### (H22)

#### **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Manager or Manager/Subordinate	.00	No	38
	1.00	Yes	26

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.244 <sup>a</sup>	3	3.748	2.616	.059
Intercept	1543.544	1	1543.544	1077.215	.000
Parenting	4.433	1	4.433	3.094	.084
Position	.021	1	.021	.015	.904
Parenting * Position	4.533	1	4.533	3.164	.080
Error	85.974	60	1.433		
Total	1734.938	64			
Corrected Total	97.218	63			

a. R Squared = .116 (Adjusted R Squared = .071)



### (H23)

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22

#### **Between-Subjects Factors**

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	16.047ª	5	3.209	2.293	.057
Intercept	1024.496	1	1024.496	732.045	.000
Parenting	6.699	1	6.699	4.787	.033
Sector_Of_Employment	8.563	2	4.281	3.059	.055
Parenting * Sector_Of_Employment	.588	2	.294	.210	.811
Error	81.171	58	1.399		
Total	1734.938	64			
Corrected Total	97.218	63			

a. R Squared = .165 (Adjusted R Squared = .093)



### (H24)

#### **Between-Subjects Factors**

		Value Label	Ν
Sector of Employment	.00	Public	5
	1.00	Private	36
	2.00	Freelance	22
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	10.857ª	5	2.171	1.490	.207
Intercept	924.778	1	924.778	634.797	.000
Sector_Of_Employment	10.374	2	5.187	3.561	.035
Higher_Education	.001	1	.001	.001	.977
Sector_Of_Employment * Higher_Education	.014	2	.007	.005	.995
Error	83.038	57	1.457		
Total	1724.375	63			
Corrected Total	93.895	62			

a. R Squared = .116 (Adjusted R Squared = .038)



### (H25)

#### **Between-Subjects Factors**

		Value Label	Ν
Years of Employment	.00	> 3	11
	1.00	3 - 6	14
	2.00	6 - 9	6
	3.00	> 9	33
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35

### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9.338ª	6	1.556	1.010	.428
Intercept	1282.959	1	1282.959	832.149	.000
Years_Of_Employment	.857	3	.286	.185	.906
Parenting	8.486	1	8.486	5.504	.022
Years_Of_Employment * Parenting	1.770	2	.885	.574	.566
Error	87.879	57	1.542		
Total	1734.938	64			
Corrected Total	97.218	63			

a. R Squared = .096 (Adjusted R Squared = .001)



Non-estimable means are not plotted

### (H26)

#### **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	28
	1.00	Yes, I have kid(s)	35
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.444 <sup>a</sup>	3	2.815	1.943	.132
Intercept	1532.030	1	1532.030	1057.800	.000
Parenting	6.610	1	6.610	4.564	.037
Higher_Education	.046	1	.046	.031	.860
Parenting * Higher_Education	3.009	1	3.009	2.078	.155
Error	85.451	59	1.448		
Total	1724.375	63			
Corrected Total	93.895	62			

a. R Squared = .090 (Adjusted R Squared = .044)



### (H27)

#### **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.864ª	5	3.173	2.262	.060
Intercept	807.051	1	807.051	575.375	.000
Parenting	1.468	1	1.468	1.047	.311
Group_Of_Ages	4.205	3	1.402	.999	.400
Parenting * Group_Of_Ages	6.408	1	6.408	4.568	.037
Error	81.354	58	1.403		
Total	1734.938	64			
Corrected Total	97.218	63			

a. R Squared = .163 (Adjusted R Squared = .091)



Non-estimable means are not plotted

### (H28)

#### **Between-Subjects Factors**

		Value Label	Ν
Parenting	.00	No	29
	1.00	Yes, I have kid(s)	35
Gender	.00	Male	34
	1.00	Female	30

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	15.510ª	3	5.170	3.797	.015
Intercept	1596.420	1	1596.420	1172.296	.000
Parenting	6.359	1	6.359	4.669	.035
Gender_	.953	1	.953	.700	.406
Parenting * Gender_	8.388	1	8.388	6.160	.016
Error	81.707	60	1.362		
Total	1734.938	64			
Corrected Total	97.218	63			

a. R Squared = .160 (Adjusted R Squared = .118)



### (H29)

#### **Between-Subjects Factors**

		Value Label	Ν
Higher Education	.00	No Master	36
	1.00	Master/PhD	27
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
	3.00	> 2000	24

#### **Tests of Between-Subjects Effects**

Dependent Variable: Social Skills

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	11.662ª	5	2.332	1.617	.170
Intercept	1142.260	1	1142.260	791.764	.000
Higher_Education	.313	1	.313	.217	.643
Family_Income	2.852	3	.951	.659	.581
Higher_Education * Family_Income	8.087	1	8.087	5.606	.021
Error	82.233	57	1.443		
Total	1724.375	63			
Corrected Total	93.895	62			

a. R Squared = .124 (Adjusted R Squared = .047)



Non-estimable means are not plotted

# (H30)

#### **Between-Subjects Factors**

		Value Label	Ν	
Emotional Intelligence	3.94			1
	4.31			1
	4.38			3
	4.44	-		1
	4.50			1
	4.56			2
	4.69			1
	4.75			1
	4.81			1
	4.88			2
	4.94			5
	5.00			1
	5.19			1
	5.25			1
	5.31			5
	5.44			2
	5.50			1
	5.56			3
	5.63			3
	5.69			4
	5.75			2
	5.81			5
	5.88			1

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	6.00		2
	6.06		3
	6.19		3
	6.25		2
	6.38		2
	6.44		2
	6.63		1
	6.75		1
Gender	.00	Male	34
	1.00	Female	30

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	36.410ª	42	.867	.922	.601
Intercept	783.203	1	783.203	832.993	.000
EI	29.850	30	.995	1.058	.454
Gender_	.735	1	.735	.782	.387
EI * Gender_	7.067	11	.642	.683	.739
Error	19.745	21	.940		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .648 (Adjusted R Squared = -.055)



Non-estimable means are not plotted

# (H31)

#### **Between-Subjects Factors**

		Value Label	Ν	
Emotional Intelligence	3.94			1
	4.31			1
	4.38			3
	4.44	-		1
	4.50			1
	4.56			2
	4.69			1
	4.75			1
	4.81			1
	4.88			2
	4.94			5
	5.00			1
	5.19			1
	5.25			1
	5.31			5
	5.44			2
	5.50			1
	5.56			3
	5.63			3
	5.69			4
	5.75			2
	5.81			5
	5.88			1

	6.00		2
	6.06		3
	6.19		3
	6.25		2
	6.38		2
	6.44		2
	6.63		1
	6.75		1
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	38.989ª	45	.866	.908	.618
Intercept	468.452	1	468.452	491.192	.000
EI	25.969	30	.866	.908	.604
Group_Of_Ages	.742	3	.247	.259	.854
EI * Group_Of_Ages	9.597	12	.800	.839	.614
Error	17.167	18	.954		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .694 (Adjusted R Squared = -.070)



Non-estimable means are not plotted

## (H32)

#### **Between-Subjects Factors**

		Value Label	Ν	
Emotional Intelligence	3.94			1
	4.31			1
	4.38			3
	4.44			1
	4.50			1
	4.56			2
	4.69			1
	4.75			1
	4.81			1
	4.88			2
	4.94			4
	5.00			1
	5.19			1
	5.25			1
	5.31			5
	5.44			2
	5.50			1
	5.56			3
	5.63			3
	5.69			4
	5.75			2
	5.81			5
	5.88			1

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	6.00		2
	6.06		3
	6.19		3
	6.25		2
	6.38		2
	6.44		2
	6.63		1
	6.75		1
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	39.914 <sup>a</sup>	43	.928	1.190	.349
Intercept	801.398	1	801.398	1027.592	.000
EI	23.297	30	.777	.996	.516
Higher_Education	.070	1	.070	.089	.768
EI * Higher_Education	10.725	12	.894	1.146	.383
Error	14.818	19	.780		
Total	1038.875	63			
Corrected Total	54.732	62			

a. R Squared = .729 (Adjusted R Squared = .117)



Non-estimable means are not plotted

### (H33)

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	45.853 <sup>a</sup>	49	.936	1.272	.322
Intercept	512.080	1	512.080	695.891	.000
EI	30.611	30	1.020	1.387	.263
Family_Income	2.691	3	.897	1.219	.339
EI * Family_Income	14.928	16	.933	1.268	.331
Error	10.302	14	.736		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .817 (Adjusted R Squared = .174)



Non-estimable means are not plotted

## (H34)

## **Between-Subjects Factors**

		Value Label	Ν	
Emotional Intelligence	3.94			1
	4.31			1
	4.38			3
	4.44	-		1
	4.50			1
	4.56			2
	4.69			1
	4.75			1
	4.81			1
	4.88			2
	4.94			5
	5.00			1
	5.19			1
	5.25			1
	5.31			5
	5.44			2
	5.50			1
	5.56			3
	5.63			3
	5.69			4
	5.75			2
	5.81			5
	5.88			1

	6.00		2
	6.06		3
	6.19		3
	6.25		2
	6.38		2
	6.44		2
	6.63		1
	6.75		1
Years of Employment	.00	> 3	11
	1.00	3 - 6	14
	2.00	6 - 9	6
	3.00	> 9	33

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	40.629ª	49	.829	.748	.779
Intercept	650.508	1	650.508	586.570	.000
EI	28.271	30	.942	.850	.659
Years_Of_Employment	3.702	3	1.234	1.113	.377
EI * Years_Of_Employment	9.142	16	.571	.515	.898
Error	15.526	14	1.109		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .724 (Adjusted R Squared = -.244)



Non-estimable means are not plotted

### (H35)

## **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	36.171ª	40	.904	1.041	.471
Intercept	739.971	1	739.971	851.632	.000
EI	29.803	30	.993	1.143	.374
Marital_Status	1.671	1	1.671	1.924	.179
EI * Marital_Status	5.376	9	.597	.688	.713
Error	19.984	23	.869		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .644 (Adjusted R Squared = .025)



Non-estimable means are not plotted

### (H36)

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	36.968ª	40	.924	1.108	.405
Intercept	795.534	1	795.534	953.605	.000
EI	27.288	30	.910	1.090	.420
Parenting	.254	1	.254	.305	.586
EI * Parenting	8.410	9	.934	1.120	.388
Error	19.188	23	.834		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .658 (Adjusted R Squared = .064)



Non-estimable means are not plotted

# (H37)

## **Between-Subjects Factors**

		Value Label	Ν	
Emotional Intelligence	3.94			1
	4.31			1
	4.38	-		3
	4.44			1
	4.50			1
	4.56			2
	4.69			1
	4.75			1
	4.81			1
	4.88			2
	4.94			5
	5.00			1
	5.19			1
	5.25			1
	5.31			5
	5.44			2
	5.50			1
	5.56			3
	5.63			3
	5.69			4
	5.75			2
	5.81			5
	5.88			1
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	6.00		2
	6.06		3
	6.19		3
	6.25		2
	6.38		2
	6.44		2
	6.63		1
	6.75		1
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22

### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	41.468ª	43	.964	1.313	.259
Intercept	519.587	1	519.587	707.523	.000
EI	30.723	30	1.024	1.395	.221
Sector_Of_Employment	3.488	2	1.744	2.375	.119
EI * Sector_Of_Employment	10.155	11	.923	1.257	.316
Error	14.688	20	.734		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .738 (Adjusted R Squared = .176)



Non-estimable means are not plotted

# (H38)

## **Between-Subjects Factors**

		Value Label	Ν	
Emotional Intelligence	3.94			1
	4.31			1
	4.38			3
	4.44			1
	4.50			1
	4.56			2
	4.69			1
	4.75			1
	4.81			1
	4.88			2
	4.94			5
	5.00			1
	5.19			1
	5.25			1
	5.31			5
	5.44			2
	5.50			1
	5.56			3
	5.63			3
	5.69			4
	5.75			2
	5.81			5
	5.88			1

	6.00		2
	6.06		3
	6.19		3
	6.25		2
	6.38		2
	6.44		2
	6.63		1
	6.75		1
Manager or	.00	No	38
Manager/Subordinate	1.00	Yes	26

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.664ª	36	.880	.970	.541
Intercept	763.255	1	763.255	841.424	.000
EI	29.443	30	.981	1.082	.420
Position	1.157	1	1.157	1.276	.269
EI * Position	1.707	5	.341	.376	.860
Error	24.492	27	.907		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .564 (Adjusted R Squared = -.018)



Non-estimable means are not plotted

(H39)

### **Between-Subjects Factors**

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7		2
	7		1
	7		1
Gender	.00	Male	34
	1.00	Female	30

### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	24.895ª	20	1.245	1.712	.070
Intercept	591.375	1	591.375	813.461	.000
Empathy	22.114	12	1.843	2.535	.013

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Gender_	.002	1	.002	.003	.959
Empathy * Gender_	3.148	7	.450	.619	.738
Error	31.260	43	.727		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .443 (Adjusted R Squared = .184)



Non-estimable means are not plotted

(H40)

## **Between-Subjects Factors**

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7	-	2
	7		1
	7		1
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20
	3.00	50 - 60	6

#### **Tests of Between-Subjects Effects**

#### Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	34.848ª	28	1.245	2.044	.023
Intercept	432.443	1	432.443	710.344	.000
Empathy	18.320	12	1.527	2.508	.017
Group_Of_Ages	2.997	3	.999	1.641	.198
Empathy * Group_Of_Ages	10.435	13	.803	1.319	.249
Error	21.307	35	.609		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .621 (Adjusted R Squared = .317)



Non-estimable means are not plotted

(H41)

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		8
	6		4
	7		2
	7		1
	7		1
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

### **Between-Subjects Factors**

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	29.200ª	22	1.327	2.079	.022
Intercept	552.964	1	552.964	866.318	.000
Empathy	22.537	12	1.878	2.942	.005

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Higher_Education	.670	1	.670	1.049	.312
Empathy * Higher_Education	6.031	9	.670	1.050	.419
Error	25.532	40	.638		
Total	1038.875	63			
Corrected Total	54.732	62	-		

a. R Squared = .534 (Adjusted R Squared = .277)



Non-estimable means are not plotted

(H42)

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7		2
	7		1
	7		1
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
	3.00	> 2000	25

### **Between-Subjects Factors**

### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.535ª	29	1.087	1.502	.127

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Intercept	447.314	1	447.314	617.742	.000
Empathy	15.946	12	1.329	1.835	.082
Family_Income	.483	3	.161	.222	.880
Empathy * Family_Income	8.949	14	.639	.883	.583
Error	24.620	34	.724		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .562 (Adjusted R Squared = .188)



Non-estimable means are not plotted

# (H43)

### **Between-Subjects Factors**

		Value Label	N
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7		2
	7		1
	7		1
Years of Employment	.00	> 3	11
	1.00	3 - 6	14
	2.00	6 - 9	6
	3.00	> 9	33

#### **Tests of Between-Subjects Effects**

#### Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	30.997ª	29	1.069	1.445	.151
Intercept	464.923	1	464.923	628.316	.000
Empathy	17.292	12	1.441	1.947	.063
Years_Of_Employment	1.011	3	.337	.456	.715
Empathy * Years_Of_Employment	8.694	14	.621	.839	.625
Error	25.158	34	.740		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .552 (Adjusted R Squared = .170)



Non-estimable means are not plotted

### (H44)

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7		2
	7		1
	7		1
Marital Status	.00	Single	23
	1.00	Married	41

### **Between-Subjects Factors**

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	25.982ª	22	1.181	1.605	.094
Intercept	561.248	1	561.248	762.632	.000
Empathy	23.338	12	1.945	2.643	.010

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Marital_Status	.144	1	.144	.196	.660
Empathy * Marital_Status	3.545	9	.394	.535	.840
Error	30.173	41	.736		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .463 (Adjusted R Squared = .174)



Non-estimable means are not plotted

### (H45)

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	28.061ª	21	1.336	1.998	.028
Intercept	599.070	1	599.070	895.583	.000
Empathy	20.204	12	1.684	2.517	.014
Parenting	.215	1	.215	.322	.574
Empathy * Parenting	5.997	8	.750	1.121	.369
Error	28.094	42	.669		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .500 (Adjusted R Squared = .250)



Non-estimable means are not plotted

### (H46)

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7		2
	7		1
	7		1
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22

#### **Between-Subjects Factors**

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	23.892ª	25	.956	1.126	.364
Intercept	458.160	1	458.160	539.620	.000

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Empathy	18.437	12	1.536	1.810	.082
Sector_Of_Employment	.220	2	.110	.130	.879
Empathy * Sector_Of_Employment	2.035	11	.185	.218	.995
Error	32.264	38	.849		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .425 (Adjusted R Squared = .047)

## **Profile Plots**



### Estimated Marginal Means of Satisfaction from Manager

Non-estimable means are not plotted

### (H47)

		Value Label	Ν
Empathy	4		4
	4		2
	5		2
	5		7
	5		6
	5		7
	6		11
	6		8
	6		9
	6		4
	7		2
	7		1
	7		1
Manager or	.00	No	38
Manager/Subordinate	1.00	Yes	26

### **Between-Subjects Factors**

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.430ª	22	1.247	1.780	.055
Intercept	597.238	1	597.238	852.454	.000
Empathy	19.323	12	1.610	2.298	.024

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Position	.001	1	.001	.002	.963
Empathy * Position	5.630	9	.626	.893	.540
Error	28.725	41	.701		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .488 (Adjusted R Squared = .214)



Non-estimable means are not plotted

(H48)

## **Between-Subjects Factors**

		Value Label	Ν
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Gender	.00	Male	34
	1.00	Female	30

### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	31.952ª	32	.999	1.279	.248
Intercept	703.977	1	703.977	901.673	.000
Social_Skills	16.433	20	.822	1.052	.439
Gender_	.096	1	.096	.123	.728
Social_Skills * Gender_	15.742	11	1.431	1.833	.091
Error	24.203	31	.781		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .569 (Adjusted R Squared = .124)



Non-estimable means are not plotted

(H49)

# **Between-Subjects Factors**

		Value Label	Ν
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Group of ages	.00	20 - 30	3
	1.00	30 - 40	35
	2.00	40 - 50	20

3.00 50 - 60 6

### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.293ª	34	.803	.807	.728
Intercept	462.845	1	462.845	465.050	.000
Social_Skills	20.230	20	1.011	1.016	.474
Group_Of_Ages	2.228	3	.743	.746	.533
Social_Skills * Group_Of_Ages	8.167	11	.742	.746	.687
Error	28.863	29	.995		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .486 (Adjusted R Squared = -.117)



Non-estimable means are not plotted

(H50)

## **Between-Subjects Factors**

		Value Label	Ν
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Higher Education	.00	No Master	36
	1.00	Master/PhD	27

#### **Tests of Between-Subjects Effects**

#### Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	21.185ª	28	.757	.767	.762
Intercept	731.892	1	731.892	741.777	.000
Social_Skills	13.808	19	.727	.737	.757
Higher_Education	.015	1	.015	.016	.901
Social_Skills * Higher_Education	6.664	8	.833	.844	.571
Error	33.547	34	.987		
Total	1038.875	63			
Corrected Total	54.732	62			

a. R Squared = .387 (Adjusted R Squared = -.118)



Non-estimable means are not plotted

(H51)

## **Between-Subjects Factors**

		Value Label	Ν
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Family Income	.00	> 500	3
	1.00	501 - 1000	13
	2.00	1001 - 2000	23
3.00 > 2000 25

### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	34.395ª	40	.860	.909	.614
Intercept	469.989	1	469.989	496.762	.000
Social_Skills	18.041	20	.902	.953	.539
Family_Income	4.488	3	1.496	1.581	.221
Social_Skills * Family_Income	14.816	17	.872	.921	.562
Error	21.760	23	.946		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .612 (Adjusted R Squared = -.061)



Non-estimable means are not plotted

# (H52)

		Value Label	N
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Years of Employment	.00	> 3	11
	1.00	3 - 6	14
	2.00	6 - 9	6

	3.00	> 9	33
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Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	37.114ª	42	.884	.975	.544
Intercept	610.595	1	610.595	673.392	.000
Social_Skills	15.862	20	.793	.875	.616
Years_Of_Employment	3.329	3	1.110	1.224	.326
Social_Skills * Years_Of_Employment	19.078	19	1.004	1.107	.408
Error	19.042	21	.907		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .661 (Adjusted R Squared = -.017)



Non-estimable means are not plotted

(H53)

		Value Label	Ν
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
5	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
7 7	7		2
	7		2
	7		3
Marital Status	.00	Single	23
	1.00	Married	41

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	22.499 <sup>a</sup>	29	.776	.784	.747
Intercept	686.308	1	686.308	693.317	.000
Social_Skills	16.812	20	.841	.849	.644
Marital_Status	.239	1	.239	.241	.627
Social_Skills * Marital_Status	6.219	8	.777	.785	.619
Error	33.656	34	.990		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .401 (Adjusted R Squared = -.111)



Non-estimable means are not plotted

### (H54)

#### **Tests of Between-Subjects Effects**

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	25.353ª	31	.818	.850	.674
Intercept	717.275	1	717.275	745.170	.000
Social_Skills	16.117	20	.806	.837	.656
Parenting	.139	1	.139	.145	.706
Social_Skills * Parenting	9.023	10	.902	.937	.513
Error	30.802	32	.963		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .451 (Adjusted R Squared = -.080)



Non-estimable means are not plotted

# (H55)

		Value Label	N
Social Skills	2		1
	2	-	1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Sector of Employment	.00	Public	6
	1.00	Private	36
	2.00	Freelance	22

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	33.559 <sup>a</sup>	35	.959	1.188	.322
Intercept	512.452	1	512.452	635.013	.000
Social_Skills	11.902	20	.595	.737	.757
Sector_Of_Employment	.526	2	.263	.326	.725
Social_Skills * Sector_Of_Employment	16.939	13	1.303	1.615	.140
Error	22.596	28	.807		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .598 (Adjusted R Squared = .095)



Non-estimable means are not plotted

# (H56)

		Value Label	Ν
Social Skills	2		1
	2		1
	2		1
	3		1
	3		1
	3		1
	4		2
	4		5
	4		1
	4		4
	5		2
	5		2
	5		4
	5		8
	6		6
	6		7
	6		6
	6		4
	7		2
	7		2
	7		3
Manager or	.00	No	38
wanager/Subordinate	1.00	Yes	26

Dependent Variable: Satisfaction from Manager

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.333ª	28	.976	1.185	.314
Intercept	671.661	1	671.661	815.635	.000
Social_Skills	19.143	20	.957	1.162	.339
Position	3.076	1	3.076	3.735	.061
Social_Skills * Position	7.323	7	1.046	1.270	.293
Error	28.822	35	.823		
Total	1046.438	64			
Corrected Total	56.155	63			

a. R Squared = .487 (Adjusted R Squared = .076)



Non-estimable means are not plotted