

**ORIGINAL PAPER****A study of the emotional intelligence of employees at a District Hospital of Greece****Apostolos Efkarpidis, BSc, MSc, RN**

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**Corresponding Author:** Efkarpidis Apostolos, General Hospital of Syros "Vardakeio & Proio" Ermoupolis, Syros 84100, Greece. E-mail address: apostolosefkarpidis@yahoo.gr**Abstract**

**Background:** The role of emotional intelligence is one of the main issues in modern management. Contemporary terms with semiotic meaning that target emotions, such as 'leading with the heart', 'the art of influence', 'team mind' and 'team intelligence quotient', are now quite frequent in Greek and International literature.

The **objective** of this study was the investigation of the level of emotional intelligence in three professional groups of employees in a district hospital.

**Methods:** The population of the study consisted of 132 employees of a General Regional Hospital (doctors, nurses, administrative employees). The "Emotional Competence Inventory (ECI)", which was developed in 1999 by Goleman, Boyatzis and Rhee and is applied in organizational environments after relevant permission, was used for data collection. Chi-square test and Takey test (ANOVA / POST -HOC) were used in the statistical analysis of the data, which was performed with SPSS and Microsoft Office Excel.

**Results:** Chi-square test was used to investigate the relationship between the answers of every professional group, the relationship between males and females of the population of the study, as well as the relationship between the education level of the study's population. Important differences were found. The values of the answers were summed up (Likert-scale - additive model) and were converted to z-scores. According to the study's model, nurses of the hospital in question are first in self-awareness, social awareness and cognitive thought; whereas self-management was found in doctors and relationship management was found in administrative employees.

**Conclusions:** The analysis of the results indicates differences between the professional groups and distinctively points out the qualitative characteristic elements of each profession which relate with the subfactors that investigate emotional intelligence. The difference between professionals in how they manage their tasks with emotional intelligence affects the qualitative characteristics of the services that they produce and offer.

**Key words:** Emotional Intelligence, Empathy, Health Organizations

**Introduction**

A conventional regard on Management science refers to the people's "reasoning" and to whether they reach rational decisions, interpreting only partially their behavior. The roles of Intelligence Quotient and purely cognitive skills in success have been disputed since 1973. A group of special abilities, such as self discipline, initiative and the ability to comprehend the feelings of others, have been proven to distinguish the more successful individuals from the rest. Emotions play a dominant role in that as they achieve an exceptionally effective means of communication.

The 'good emotions' are more easily diffused than the 'bad' ones, encourage cooperation, justice, co operational spirit and improve the general performance even on group level (Goleman 2000).

On the other hand, when emotional conflicts remove attention and energy from the common task, the performance of the team shows a decline drops. Therefore, emotional intelligence is directly connected to organizational development and evolution of human resources, and due to that is also connected to Management and Leadership, by projecting a new way of conceptualizing and

accepting human behaviors, management models, interpersonal relations and general beliefs.

## Background

The concept of emotional intelligence has been introduced by Mayer and Salovey in 1990 and has become popular as a psychological term in work success. Today there are three models of emotional intelligence; Bar-On's "personality traits model", Salovey's and Mayer's "aptitude/intelligence model" and Goleman's "mixed or performance model" (Diamantopoulou & Lavdaniti 2010). Bar – On and Parker have defined emotional intelligence as a "interrelated emotional, personal and social skills that affect a person's general ability to respond proactively and efficiently to demands and pressures" (Slaski & Cartwright 2003).

According to Salovey & Mayer (1990), emotional intelligence is the ability to process emotional information, i.e. the ability to perceive, absorb, analyze, understand and regulate emotions, in order to promote personal growth. Goleman (1995) uses the term "emotional intelligence" to refer to the person's ability to recognize their emotions and the emotions of others, to motivate themselves and to manage properly their emotions as well as relationships, accepting essentially emotions as prompts for action. The basic difference between Goleman's theory and the theories of Bar-On and Salovey and Mayer, is that Bar-On regards emotional intelligence from the aspect of a personality theory and Salomey and Mayer as an intelligence theory, whereas Goleman proposes it as a performance theory (Epitropaki 2007).

These days in the world of business and organizations, communication and knowledge skills, as well as the ability to apply motivation methods, set goals and evaluate performance and mostly the ability to empathize are considered particularly important, since they are all connected to executive success (Montana & Charmov 2002). Focusing on the human factor gains great importance in the cases where the human factor plays a determining role and is the main agent of production. The health sector and hospitals in particular are working environments that are characterized as "intense" (Tountas 2008).

Modern hospital is a particularly complex system that is based on the coordination of diverse but interrelated professional groups that, despite their

diverse values and priorities, their diverse educational backgrounds, specialization and skills, have to face jointly the distinct problems of the population's health. Health professionals that work in hospitals are in effect working in organizations that present discreet characteristics compared to other kinds of organizations (Zyga 2010). These characteristics are determined by the particular interest and the great sensitivity that accompany every health problem, by the state of constant functioning and stand by of health services, by the intense and general demand for quality in health services, by the constantly growing cost of health services, as well as the society's expectations (Dikeos et al 1999).

However, the hard reality in health organizations that seems more and more to be coordinated by financial consultants and accountants, leads things to worse by limiting meaningful communication as well as emotional understanding that create value in health organizations. (Phanarioti 1996). On the health professionals' part, increasing the levels of emotional understanding demands care and concentration (Verderber 1996). Care stands for the ability to put ourselves in the other's position, i.e. to have or exercise empathy, which is the ability to perceive other people's emotions and needs and act accordingly. (Burantas 2002).

As Di Matteo & Martin (2006) point out, through empathy a person "lives for a period in another person's life", enters their personal world of perception and sees facts through their eyes. Therefore, we can increase the chances for more elaborate approaches if we look into the "black box" that contains a person's thoughts and emotions (Potamianos 1995). This gains greater importance when the human entity in question is the patient.

In our contact and communication with the patient and their environment, emotional intelligence plays a leading role, as the "land" of the patient is ruled mainly by emotions. (Goleman 1995). Emotions are also dominant in the patient's family members, that together with the patient interpret the disease in a subjective manner, influenced by the personal beliefs, prejudices and past experiences that they might have regarding the particular organic disorder (Papadatou & Anagnostopoulos 1999).

All the above regard the micro- and macro-environment, that form the particular working conditions of health professionals. However, the creative source of inspiration and positive emotions in a workplace is meaningful leadership

(Burantas 2002). The effort that the employees realize the vision for an alternative future is a communicative challenge of an entirely different magnitude than the effort to organize them in order to accomplish a short term plan (Kotter 2006).

Leaders motivate, awake passion and activate our better self. When such an influence is exerted upon us, we are talking about a strategy, a vision or high ideals. Reality however is simpler and as (Goleman et al 2002) mention, "great leaders just speak to our emotions". Maxwell J. (2000) points out that if a leader does not have the ability to speak to the people's emotions, will not have the desired response. Emotional intelligence entails all those deeply human attributes that a person does or does not possess, which make him or her win people's trust and ultimately inspire and motivate (Stournaras 2008). Motivation is an emotional process, more psychological than logical. The manager of a health service has first to learn how a health professional wants to feel and then to help them use the tools that will encourage them to achieve those feelings (Swansburg & Swansburg 1999). Bennis and Chen consider that emotional intelligence is responsible for about the 85-90% of leaders' success (Connell & Travaglione 2004).

According to Locke (2005), some characteristics that appear to be based to emotional intelligence are self-confidence, self-esteem, moral character, adjustability, flexibility, innovation, trust development, conflict management and objective self-criticism.

However, people are different and no leader can be considered authentic if he or she follows another leader's model of leadership in their organization (Hernon et al 2007). It is therefore important to ask oneself how the differences between people influence their work performance and the satisfaction they get from it.

The characteristics that can affect performance create differences in the study of organizational behavior and belong to three large categories: demographic characteristics, proficiency characteristics and psychological characteristics, such as the person's values, attitudes and personality (Chitiris 1996). The leaders that display a visionary, democratic, humanistic and consulting style, create the optimum organizational climate in their organizations and achieve the greatest performance (Goleman 2000)

According to Voola, Carlson & West (2004), an increase in the levels of emotional intelligence of leaders and employees, is likely to lead to the appearance of a competitive advantage against change. Thus we can suppose that emotional intelligence not only makes leaders and employees of every grade intelligent and efficient, but also "builds" emotionally "intelligent" organizations. For this reason, organizations consider instruments that measure emotional intelligence in administrators as well as employees, to be valuable tools (Mandell & Pherwani 2003).

### Objective

The objective of this study was the investigation of the levels of emotional intelligence in medical, nursing and administrative staff employed at a District General Hospital and the investigation of factors that are related to emotional intelligence and can be modified.

### Methodology

#### Participants

The participants were employees in a district General Hospital and belonged to the medical, nursing and administrative staff. The sample consisted of 132 people, from which 23 were doctors (17%), 29 were administrative employees (22%) and 80 were nursing staff (61%), (Table 1). Data collection was carried out in 4 months.

**Table 1: Sample description**

SERVICE	N	%
Medical	23	17
Adm. Staff	29	22
Nursing	80	61
GENDER	N	%
Male	29	22
Female	103	78
Total	132	100

The ages of the participants were classified in groups by approximately a decade, based on the first and the last date of birth found. More specifically, 10 people were born between years 1946-1957 (8.2%), 35 people were born between years 1958-1968 (28.7%), 55 people were born between years 1969-1980 (45.1%) and 22 people

were born between 1981-1990 (16.7%). Regarding their marital status, was concerned, it was found that 80 were married (61.1%), 9 were living with their partner (6.9%), 29 were not married (22.1%) and 13 were divorced (9.9%), (Table 3, 4). With regard to their educational level, 5 of them had Elementary Education (3.8%), 1 was Middle School graduate (0.8%), 64 were High School graduates (48.1%), 28 were University graduates (21.4%) and 34 were graduates of Technological Education Institutes (26%), (Table 5).

**Table 3: Demographic and Social Characteristics of the Sample**

AGE GROUPS		
	N	%
1946-1957	10	8,2
1958-1968	35	28,7
1969-1979	55	45,1
1980-1990	22	18,0
Total	122	100,0
Missing cases	10	
Total	132	
MARITAL STATUS		
	N	%
Married	80	61,1
Living With Partner	9	6,9
Not Married	29	22,1
Divorced	13	9,9
Missing Cases	1	
Total	132	100
CHILDREN IN THE FAMILY		
	N	%
Yes	83	62,9
No	49	37,1
Total	132	100

**Table 4: Participants' mean age**

SERVICE	min	max	MEAN	S D
Adm. Staff	28	52	38,87	7,98
Nursing	20	64	38,72	8,76
Medical	29	61	44,2	9,9

**Ethical Issues**

An anonymous questionnaire was used and permission was requested from the Syros Hospital's Scientific Board. The participants who agreed to participate were asked to provide informed consent.

**The questionnaire**

The questionnaire used was the "Emotional Competence Inventory" (ECI) by Goleman,

Boyatzis and Rhee. This questionnaire provides information on skills related to emotional intelligence and was developed for use in organizations and businesses. Additionally, it gives the possibility to expose the parts in need of improvement, predicting working performance.

**Table 5: Participants' educational level**

EDUCATIONAL LEVEL		
	N	%
Elementary Education	5	3,8
Middle School	1	0,8
High School	64	48,1
University	28	21,3
Technological Education Institute	34	26,0
Total	132	100

A 5-point Likert scale is used: (a) I never act like that, (b) This rarely happens, (c) Sometimes, (d) Often, (e) I always act like that.

ECI consists of 72 questions investigating 5 discrete factors, which in turn are investigated through 24 subfactors, detected by the specific group of questions.

Specifically, The factor of "Self-awareness" is investigated through the subfactors of emotional awareness, accurate self-evaluation and self-confidence. The factor of "Self-management" is investigated through the subfactors of self-control, goal completion, initiative, reliability, conscientiousness, adjustability and optimism. The factor of "Social awareness" is investigated through the subfactors of service orientation, empathy, organizational awareness and intercultural awareness.

The factor of "Relationship Management" is investigated through the subfactors of leadership, communication, conflict management, change facilitation, influence, developing others, developing relations, teamwork and collaboration. The factor of "Cognitive Thought" is investigated through the subfactors of systematic thought and recognizing similar problems.

**Reliability**

Cronbach's a (coefficient of reliability) was found particularly high (0.924). This means that the measurement is validated, the questionnaire is usable and the results are reliable.

### Validity

Validity is determined by whether the questions in the instrument cover all the spectrum of the concept it investigates, as well as by a strong theoretical base (Alexopoulos 2004). This was true for the present questionnaire, as the illustration of the five emotional intelligence factors according to Goleman, is achieved through representation in equal parts of all the subfactors that are under investigation by at least three questions each.

However, in test evaluation we have to mention the view of Cronbach and Drenth, who have questioned some of psychologist's beliefs as far as the tests are concerned, by pointing out some weaknesses (Alexopoulos 1998).

### Statistical analysis

All the data collected with the questionnaire were coded and subsequently transferred to a computer SPSS (V. 11.22) and Microsoft Office Excel were used in the statistical analysis of the data.

### Results

Takey test (ANOVA / POST –HOC) was used to investigate the difference in the mean ages between administrative, nursing and medical staff. It was found that there is a statistically significant difference between the ages of medical and nursing staff ( $p=0.043$ ). There was no difference between the other groups.

### Classification of Professionals in the 5 Factors that Compose Emotional Intelligence

The classification of professionals in the 5 factors that compose emotional intelligence, according to the model that was used, that is a) self-awareness, b) self-management, c) social-awareness, d) relationship management and e) cognitive thought, was performed according to the z-scores. The procedure that was followed was first to sum up the values of the answers each professional group gave to the Likert-scale, then these values were standardized and converted to z-scores. The following results appeared:

In the self-awareness factor, as can be seen in Table 8, nurses have the highest score ( $Z=0.755$ ), followed by administrative staff ( $Z=0.379$ ) and by doctors who have the lowest score ( $Z=-1.134$ ).

In the self-management factor, doctors have the highest score ( $Z=0.742$ ), followed by nurses ( $Z=0.395$ ) and administrative staff ( $Z=-1.137$ ) (Table 7).

**Table 6: Professionals and self-awareness**

SELF-AWARENESS				
		Mean	S D	Z scores
Doctors	2225	35,32	0,12	-1,134
Nurses	2737	35,55		0,755
Adm. Staff	568	35,50		0,379
Total	5530	106,36		
Mean	1843,33	35,45		

**Table 7: Professionals and self-management**

SELF-MANAGEMENT				
		Mean	S D	Z scores
Doctors	4816	76,44	0,26	0,742
Nurses	5879	76,35		0,395
Adm. Staff	1215	75,94		-1,137
Total	11910	228,73		
Mean	3970	76,24		

In the social awareness factor, nurses have the highest value ( $Z=0.780$ ), followed by administrative staff ( $Z=0.347$ ) and doctors ( $Z=-1.132$ ), (Table 8).

**Table 8: Professionals and social awareness**

SOCIAL AWARENESS				
		Mean	S D	Z scores
Doctors	2111	33,51	0,12	-1,127
Nurses	2598	33,74		0,780
Adm. Staff	539	33,69		0,347
Total	5248	100,94		
Mean	1749,33	33,65		

In the factor relationship management the highest score was by administrative staff ( $Z=0.874$ ), followed by nurses ( $Z=0.217$ ) and doctors ( $Z=-1.091$ ) (Table 9).

Lastly, in the factor of cognitive thought, nurses have the highest score ( $Z=1.056$ ) followed by doctors ( $Z=-0.123$ ) and administrative staff ( $Z=-0.933$ ) (Table 10).

## Discussion

The analysis of the results indicates differences between the professional groups and distinctively points out the qualitative characteristic elements of each profession which relate with the subfactors that investigate emotional intelligence. The results that show nurses coming first in the factors of self-awareness, social awareness and cognitive thought, taking under consideration their subfactors, are in line with another study in Greece. In this study it is mentioned that even though the work/job of all health professionals entails emotional expressions, the work of nurses is considered emotionally complicated and requires the skill of empathy, since it calls for mental, emotional and physical effort (Garifallou et al 2009).

**Table 9: Professionals and managing interpersonal relationships**

MANAGING INTERPERSONAL RELATIONSHIPS				
		Mean	S D	Z scores
Doctors	6081	96,52	1,06	-1,091
Nurses	7540	97,92		0,217
Adm. Staff	1578	98,63		0,874
Total	15199	293,07		
Mean	5066,33	97,69		

**Table 10: Professionals and cognitive thought**

COGNITIVE THOUGHT				
		Mean	S D	Z scores
Doctors	1422	22,57	0,16	-0,123
Nurses	1753	22,77		1,056
Adm. Staff	359	22,44		-0,933
Total	3534	67,78		
Mean	1178,00	22,59		

Respectively, according to Weng et al (2008), doctors recognize that despite the fact that they are trained for their clinical responsibilities, they have insufficient social skills for their application. This conclusion is in line with our findings in which the low score of doctors is documented for the total of the factors that investigate emotional intelligence. At last, the need for training and

improvement in emotional intelligence skills has been proven for all health professionals.

As Grewal & Davidson (2008) mention, training in emotional intelligence in university schools could help health professionals be more sensitive towards their patients. At the same time, they propose that future studies could connect measurements of emotional intelligence to performance evaluation. Students who would have low scores in one or a combination of skills could benefit from a targeted training intervention in their weakest skills.

## Conclusions

Emotional intelligence is directly related to organizational development and evolvement of human resources, because it projects a new way of perceiving and accepting human behavior, management models, interpersonal relationships and general beliefs. It contributes to the management of human resources, work design, staffing of departments, development of innovation, volume of services, to the development of management, to relationships with customers and to all those sectors that call for a peaceful coexistence of people for achieving results (Kantas 2008). Specifically in public services there is the phenomenon of diminished quality, of malfunction, as well as carelessness in dealing with problems. The reasons for these situations are various mechanisms that have been developed and are observed in public services. Such mechanisms appear to be the slack laid-back attitude towards organization, the mentality and the general behavior climate that is development.

This distorted reality affects negatively not only citizens that use the services but employees as well, whose moral is affected negatively as they are called to recycle the weaknesses and the gaps of the system daily in their interactions with citizens (Phanarioti, 1996).

Particularly in public hospitals where the present study took place, services should be provided with total accuracy and consistency, since health or elimination of disease remains an undisputable social benefit. Public hospitals, due to their organizational and functional structure, consist of services that are not autonomous and separated one from another, but whose work, as well as weaknesses, affect each other (Zyga 2008).

The services show a weakness to be coordinated on the common goals of the organization, creating different expectations and perspectives for each professional group. In any case the climate of

tension that frames the hospital, as well as the different orientations, create the image of a particularly intense job that endangers and culminates the development, the improvement and the adoption of those skills of emotional intelligence (Tountas 2008).

Nurses, however, due to the nature of their profession that sets them constantly next to the patient in such a way that doesn't entail any selfishness seem to have the greatest potential for the development of emotional intelligence. This could prove to be the main tool in disease management as well as in the constant and stable function of the health system, being the main link in creating emotionally intelligent health organizations.

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