

# Characterization of Emotional Intelligence in Colombian Managers\*

## Caracterización de la inteligencia emocional en gerentes colombianos

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**JULIO CÉSAR ACOSTA-PRADO\*\***

Universidad Externado de Colombia, Colombia

**RODRIGO ARTURO ZARATE TORRES\*\*\***

Universidad EAN, Colombia

**GELI MERCEDES PAUTT TORRES\*\*\*\***

Universidad Externado de Colombia, Colombia

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\*\* Resumen biográfico. E-mail: [julioc.acosta@uexternado.edu.co](mailto:julioc.acosta@uexternado.edu.co)

\*\*\* PhD in Strategic Leadership of the Regent University. Director of the PhD in management from the University EAN. E-mail: [razarate@ean.edu.co](mailto:razarate@ean.edu.co)

\*\*\*\* PhD in Business Administration of the Antonio de Nebrija University. Professor and Researcher at the Faculty of Business Administration from the Externado University of Colombia. E-mail: [geli.pautt@uexternado.edu.co](mailto:geli.pautt@uexternado.edu.co)

### ABSTRACT

Through a quantitative empirical study with a sample of 557 managers from Colombia, the characterization of emotional intelligence (EI) in Colombian managers is established using the Emotional Intelligence Scale of Wong and Law (2002). The study analyses the ability to perceive, appraise and express emotion, own and others, as reflected in the concept of (EI) and its impact on the personal and professional achievements of Colombian managers. The results show that respondents have high capacity to assess and recognize their own emotions, low capacity to assess and understand the emotions of their team members, high capacity for self-control of their emotions in extreme moods, and high capacity to direct their emotions toward achieving competence.

### Keywords

characterization; emotional intelligence; Emotional Intelligence Scale; Colombian managers

### RESUMEN

Mediante un estudio empírico de tipo cuantitativo aplicado en 557 gerentes de Colombia, se establece la caracterización de la Inteligencia Emocional (IE) en los gerentes colombianos, usando la Escala de Inteligencia Emocional de Wong y Law (2002). Se trata de conocer la capacidad de percibir, valorar y expresar emociones, propias y ajenas, reflejada en el concepto de IE y su impacto en los logros personales y profesionales de los gerentes colombianos. Los resultados obtenidos muestran que los encuestados tienen alta capacidad para valorar y reconocer sus propias emociones; baja capacidad para valorar y comprender la emociones de los miembros de su equipo; alta capacidad de autocontrol de sus emociones en estados de ánimo extremos y alta capacidad para orientar sus emociones hacia el logro de sus competencias.

### Palabras clave

caracterización; inteligencia emocional; escala de inteligencia emocional; gerentes colombianos

## 1. Introduction

The interest in the intelligence of managers has always existed, beginning with Alfarabi in 900 (AD) included this quality in his list of what a head of state should have and Ghazali used it as advice for the effectiveness of kings (George & Alvarez, 2005).

The argument that emotional intelligence (EI) is as important as IQ or more important than IQ in professional life and in business life (Goleman, 1996; Cooper & Sawaf, 2006) has caused the issue to receive deeper analysis and in the case of this research, has been related to the interest in conducting studies to identify EI in Colombian managers.

According to Cartwright and Pappas (2008), the American Society for Training and Development mentions that four out of five companies are trying to identify EI of employees to increase sales, improve customer service (Cavelzani, Lee, Locatelli, Monti, & Villamira, 2003) and ensure that their managers have performed well internationally. EI is still under study and has been found to have a direct relationship to job performance (Cartwright & Pappas, 2008).

Furthermore, EI has been linked to personal and professional performance of individuals. Anand and UdayaSuriyan (2010) mention that EI empowers managers with the ability to sense what others need and want, allowing them to develop strategies to meet those needs and desires. Bar-On (1997) mentions that EI has been proposed as an important and potential construct for human resource management.

The characterization of EI has not yet been analyzed in Colombia. This article fills that gap by assessing EI in Colombian managers of various economic sectors, by applying the tool developed by Wong and Law (2002) called Emotional Intelligence Scale. Therefore, the aim of the study has a double contribution to academic level, first through the comparative study to measure and value the EI of Colombian managers based on the application of the Emotional Intelligence Scale of Wong and Law (2002) and, second, is intended to characterize the EI in Colombian managers.

## Theoretical background and hypotheses

There are different perspectives that address EI. However, for better understanding of this construct it is useful to define the terms separately. First, the term intelligence comes from the Latin *intellegere*, which means the ability to understand or comprehend and solve problems (Royal Spanish Academy, 2014). For some authors, intelligence is considered a learning capacity and knowledge generation (Binet, 1905; Terman, 1916; Spearman, 1927; Thurstone, 1938; Sternberg & Powell, 1989); others conceived it as a personality trait (Cattell, 1971); and also as a social competition in which people can solve their problems from the culture in which they are (Thorndike, 1920; Zigler & Seitz, 1982; Davidoff, 1989). However, the most widely used definition is given by Gottfredson (1997) who defines intelligence as a mental skill that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience; it is not merely book learning, not an academic ability, but reflects a deeper ability to understand our environment. As Chopra and Kanji (2010) point out, intelligence is related to logic, reasoning, planning, learning, thinking and problem solving.

Moreover, the term emotion comes from the Latin *motere*, from the Latin verb 'move' in addition to the prefix 'e' which means away, suggesting that implicit in every emotion there is a tendency to act (Goleman, 1995). Some authors define emotions as chaotic, disorganized response to a particular event (Shaffer, Gilmer & Schoen, 1940; Woodworth, 1940) or as a serious disturbance in the whole individual (Young, 1943). Others define it as an organized response to a specific event, which in turn, can be understood as a motivating factor for the human being (Lepper, 1948; Easterbrook, 1959; Mandler, 1975; Simon, 1982). According to Chopra and Kanji (2010), it is a mental and psychological state with a wide variety of feelings, thoughts and behaviors. Reason that the emotions have been examined from different disciplines (Cartwright & Pappas, 2008), including psychology (Cornelius, 1996), sociology (Williams, 2001), biology (Damasio, 1994)

and management (Fineman, 2000; Herriot, 2001). In this sense, Salovey and Mayer (1990) define emotion as an organized response that crosses the boundaries of many psychological subsystems including physiological, cognitive, motivational, and experimental systems.

The most commonly used definition of emotion is given by Mayer, Barsade and Roberts (2008) who define it as a coordinated response to changes in the environment that involve remembering subjective experiences, to activate relevant knowledge, to coordinate body states to be prepared to certain reactions and the valuation of the change situation process (Vigoda-Gadot & Meisler, 2010). Balamohan, Tech and Gomathi, (2015, p. 120) mention that “emotions are considered as the higher order intelligence.”

Combining these two terms creates the new term of EI, however the concept as a whole must be defined again. EI emerges from social intelligence (Law, Wong Huang & Li, 2008; Salovey & Mayer, 1990). According to Thorndike (1920), social intelligence is the ability of people to act wisely in human relations. However, in the early 1980's, Gardner (1983) introduced the theory of multiple intelligences and examined the concept of 'personal intelligence', which was composed of the intrapersonal intelligence, knowledge of the internal aspects of a person, and interpersonal intelligence, the core capacity to notice distinctions between others. Interpersonal intelligence, in particular, is the ability to understand other people: what motivates them, how they work, how to work with them cooperatively, and about knowing the contrast in their moods, temperaments, motivations and intentions (Gardner, 1993).

Conceptually, Salovey and Mayer (1990, p. 189) defined the term EI as “a subset of social intelligence that involves the ability to monitor own and others' feelings, distinguish and classify them and use this information to guide our emotions, thoughts and actions”. Furthermore, the authors argued that while social intelligence involves, among other things, the ability to monitor moods and temperaments in others, EI focuses specifically on the recognition and use of our own emotional

states in order to solve our problems and regulate our behavior.

Later, Mayer and Salovey (1993) decided that EI is not a subset but rather a type of social intelligence, which also includes the ability to monitor our own emotions, in addition to the ability to monitor the emotions of others. However, the authors noted that the above definitions seem vague because it concerned only to perceive and regulate emotion, omitting thinking about feelings. Therefore, they redefined EI as “the ability to perceive accurately, appraise and express emotions; the ability to access and / or generate feelings when they facilitate thought; the ability to understand emotions and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth” (Mayer & Salovey, 1997, p. 10).

Based on the definition of EI from Salovey and Mayer (1990), the term was popularized by Goleman (1996) who linked it to the ability to influence the success of people. Thus, the intellectual capacity is relegated to the background and begins to give importance to factors related to the emotional level, such as empathy with others to achieve optimal social relations, knowing one's own feelings and not acting impulsively. Goleman (1995) also explains the implications of the concept of EI and presents the adaptation of a broader view of EI suggested by Salovey and Mayer (1990), dividing it into five main competences: a) knowledge of one's emotions; b) ability to control emotions; c) ability to motivate oneself; d) recognition of others' emotions; and e) controlling relationships.

To reinforce the definition of the concept of EI, Mayer and Salovey (1997) argued that the intelligence quotient (IQ), the ability to perceive and interpret the emotions of others, and the ability to understand and manage one's emotions (Salovey & Mayer, 1990; Goleman, 1995; Mayer & Salovey, 1997; Cooper & Sawaf, 1997), involved only 20% of the factors that determine success. The remaining 80% corresponds to the factors that are related to what is called EI. Meanwhile, Shapiro (1997), argues that EI is identified with the emotional qualities required for achieving success, among which may include: empathy, expression and understand-

ing of feelings, control of mood, independence, adaptability, friendliness, ability to solve problems as interpersonal, persistence, warmth, kindness and respect.

However, despite the efforts made by Mayer and Salovey (1997) to define the term based on the capabilities of EI, there was confusion about the meaning of this theoretical construct. The inclusion of dimensions that are not capabilities for the construction of the EI may have affected their scientific rigor as a different construct (Schulthea, Ree, & Carrettab, 2004). Davies, Stankov and Roberts (1998) point out that the measures related to EI are the same used in studies of personality. Based on these relationships and having made several exploratory factor analyzes, the authors concluded that the EI construct was weak. Therefore Mayer, Salovey, and Caruso (2000, p. 398) defined EI as “the ability to process emotional information accurately and efficiently, including the ability to perceive, assimilate, understand, and regulate emotions”.

This new theoretical approach presents EI as an ability of the person that links emotions and reasoning. It has to use emotions to facilitate more effective reasoning. In particular, Mayer, et. al. (2000) consider that EI is related to the ability to perceive accurately, with validity and emotional speed the feelings emanating from the thoughts.

In the last decade, there have been many contributions on EI as a result of its application in empirical studies that analyze diverse nature underlying specific dimensions. One focus of the studies is to show the relationship between EI and job performance. In this regard, Jordan, Ashkanasy, Hartel and Hooper (2002) identify associations of WEIP (Workgroup Emotional Intelligence Profile) with performance measured as goal orientation and process efficiency. Law, Wong, and Song (2002) determined that EI predicts task performance in the workplace. Lastly, Livingstone, Nadjiwon-Foster, and Smithers (2002) relate EI to personal and group development of individuals. Therefore, it is considered of special interest to analyze the characterization of EI in Colombian managers.

### *EI and Management*

Business management is to combine the resources and capabilities to efficiently achieve the objectives of the firm (Finkelstein, Hambrick & Cannella, 1996). However, Morand (2001) states that the central task of management is to maintain a set of skills in order to develop relationships of trust and to have effective communication with others.

Research on business management, suggest a relative neglect of the role played by emotions in everyday business life, as this is more attributed to a human relations perspective (Ashforth & Humphrey, 1995; Rathi, 2014). Until the 1990s, research on leadership roles was focused on the importance of cognitive intelligence and little in the concept of EI. Currently, the relevance of both intelligences is recognized; however, more significant power is credited to the EI within job performance (Carmeli, 2003); Walter, Cole and Humphrey (2011, p. 52) conclude that “EI has the potential to contribute to the leadership field”. Balamohan, Tech and Gomathi, (2015, p. 121) mention that “a leader possessing strong emotional intelligence is believed to be the effective and efficient performer in the organization”.

According to Rathi (2014, p. 57), EI is “one of the most frequently researched topics in management and Industrial and Organizational (I/O) psychology in recent times”. Consequently the issue of emotions in the workplace emerged as one of the main areas of leadership in the 2000s (Ashkanasy & Daus, 2001) and has served as a special interest by scholars of organizational behavior (Brief & Weiss, 2002). This emotional part can certainly alter the rational aspect of the organization. Argyris (1985, p. 51) called it “the great paradox of business conduct” where the rational functions to the tasks and can be affected by emotional barriers. Also, Furnham (2006)

Based on the above, the Affective Events Theory<sup>1</sup> (Weiss & Cropanzano, 1996) suggests that

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<sup>1</sup> Affective Events Theory states that affective states at work derived from the work situations, which affect the attitudes and behavior of employees, the level of performance, memory, conflict

emotional states are the center of the formation of attitudes and behavior of employees, indicating that emotions profoundly affect behavior. To clarify the cumulative nature of the situations, whether positive or negative, will determine the way how we think and feel on the job, not the way to address rare situations, the repetitive situations and not the intensity of emotions which affect our welfare at work, when there is a series of negative events that accumulate, the person experiences disturbing emotions too. Therefore, this theory suggests that managers should pay attention to the emotional climate of their organization (Ashkanasy & Daus, 2001; Fisher, 1998).

In this sense, managers directly affect the emotional climate in a business. Recent research shows that 65% to 75% of employees believe that the worst aspect of their job is their immediate boss. This fact is related more to the undesirable qualities of their managers rather than to the lack of desirable qualities, the personality defects of managers (Hogan & Kaiser, 2005). Leslie and Van Velsor (1996) argue that some of the emotions that identify unsuccessful managers are coldness and arrogance, poor interpersonal skills, often betray the trust of others and find it difficult to work with others. Butler and Chinowsky, (2006), in a study conducted in a construction company, identified the weaknesses of EI also corresponded to the components of the area of interpersonal skills, lacking empathy, weak relationships and poor social responsibility.

Contrary to the exposed by Hogan and Kaiser (2005) and Leslie and Van Velsor (1996), Antonakis, Dasborough and Ashkanasy (2009) argue that some studies indicate that EI is irrelevant at high levels of the company and that there are not any relationship between EI and job performance or leadership. In this line, Conte (2005) argues the low predictive ability between the above variables because of the methodology has been used, the self, influenced by personality variables. For these measures to be more effective, other components should be considered to measure the effectiveness

of managers in terms of performance of the team or organization in general, than their own performance. Professional success of managers is more related to their ability to socialize, politicking and networking, than with effective communication, motivation, training employees and managing conflicts, those issues which pertain to leadership characteristics and are associated with interpersonal relationships (Kraiser, Hogan & Craig, 2008; Elenkov, Judge, & Wright, 2005). Also, Balamohan, Tech and Gomathi, (2015, p. 120) mention that “dedication towards job, job satisfaction, task performance and contribution for organizational effectiveness are positively correlated with EI”.

However, Schwartz (1990) shows the usefulness of EI in management, since managers who know how to recognize and manage their own emotions and can determine if the emotion is associated with opportunities or decision problems, use those emotions for decision making. Furthermore, Gardner and Stough (2002) argue that managers with high EI are able to articulate a vision, provide encouragement and sense to employees, stimulate the expression of new ideas, new ways of doing things, and to intervene on problems before they become serious.

Also, Fisher and Ashkanasy (2000) and Goonan and Stoltz (2004) argue that included in the range of causes that produce certain emotions in the workplace is also the behavior of leaders, including the characteristics of the tasks performed, the level of performance and feedback processes. In addition, possible consequences of these emotions experienced are: job satisfaction, willingness to change, stress and health. Yadav (2014, p. 51), mentions that “the leaders who are rich in emotional intelligence may inculcate in their organizations a sense of enthusiasm, positive attitude, excitement, and atmosphere of mutual understanding and trust through their support to develop a rich atmosphere of quality interpersonal relationships with their co-workers”. Del Valle and Castillo (2012) also mention that the effect of EI is not limited to performance, but to job satisfaction, change orientation, and commitment with the organization.

However, it is common to find that managers have the mistaken assumption that they can man-

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resolution, risk capacity and cooperation (Weiss & Cropanzano, 1996).

age and lead the organization and move employees regardless of their emotional aspects (Ashkanasy & Rush, 2004). Never the less, employees are constantly perceiving how its managers express and manage their emotions if they respond appropriately to the emotions of their employees, managers are able to understand the emotions of their teams become a key issue for employees to share their emotions (Smollan & Parry, 2011). This situation is evident when the emotions of managers infect<sup>2</sup> employees producing the same emotions in them. This effect has a biological explanation, through mirror neurons<sup>3</sup>, that reproduce the emotions of managers in their colleagues (Goleman & Boyatzis, 2008). In the words of Fullan (2001), EI, successful social relations, and managing change will be the responsibility of future generations of managers.

According to Aslan and Erkus (2008), there are two main models or scales to measure EI, the first is the Model-skill, designed by Mayer and Salovey (1997), which measures a skill that focuses on the relationship between feelings and intelligence. The second is the Joint Model, designed by Bar-On (1997) and Goleman (1995), which measures the structure including mental abilities, the existence and properties.

The instrument used in this research is Emotional Intelligence Scale developed by Wong and Law (2002), which according to Abdullah, Omar and Abdul Rahman, (2015, p. 322), the instrument has been “proved valid and reliable... and used in many famous studies afterwards valid”. This instrument defines four areas of EI with 4 questions per area for a total of 16. Participants respond to each of these questions in a Likert scale of 7 points,

answering every question posed in claim 1 (strongly disagrees) to 7 (strongly agree).

The instrument has been validated by different authors including Aslan and Erkus (2008). They conclude that it may be used in the areas of management, leadership and organizational behavior.

Based on the above arguments, the theoretical foundations and previous studies on EI in managers, there is a general consensus on EI as the ability of individuals to manage emotions and, in turn, includes the following four areas (Salovey & Mayer, 1990; Goleman, 1995; Caruso & Salovey, 2000; Law, Wong & Song, 2004; Wong, Wong & Law, 2004; 2007):

Self-awareness. Rating and expression of self-emotions: refers to the ability of each person to understand their deepest emotions and express them naturally. People who have great skill in this area, feel and raise awareness of self-emotions long before most people.

Empathy. Rating and recognition of emotions in others: refers to the ability of individuals to perceive and understand the emotions of people around them. People who have this ability to a high degree are much more sensitive to the feelings and emotions of others and also of reading their minds.

Self-regulation. Regulating emotions: refers to the ability of people to regulate their emotions, which empowers them to recover more quickly from mood swings and anxiety.

Self-motivation. Using emotions to facilitate performance: refers to the ability of individuals to use their own emotions to route them towards constructive activities and personal performance. A person with great skill in this area remains positive emotions most of the time, using their emotions the best way to facilitate both high job and personal performance.

Despite the references in the literature, there is no consensus on the size of the EI or the processes needed for efficient development in a leadership role. This study seeks to advance these issues; more specifically, characterizing EI in Colombian managers, through the dimensions of self-awareness, empathy, self-regulation and self-motivation.

2 Emotional contagion is a psychological process that occurs automatically and unconscious, producing shared emotions that are experienced within an organization (Sanchez-Burks & Huy, 2009).

3 Mirror neurons were discovered accidentally by researchers at the University of Parma (Italy), by Giacomo Rizzolatti, Leonardo Fogassi and Vittorio Gallese (1991), while investigating a macaque monkey specialized neurons in the movements of the mouth and hand. Suddenly found that certain neurons reacted without the monkey move a finger when he observed the movements of one of the investigators (Rizzolatti & Craighero, 2004).

The purpose of the research is based on the theoretical foundations relating to the concept and of EI and its characterization in Colombian managers. The following research hypotheses are specified to be tested empirically:

*Colombian managers have a high capacity to value and recognize their own emotions.*

*Colombian managers have a low capacity to understand and appreciate the emotions of their team members.*

*Colombian managers have a high capacity for self-control in extreme moods.*

*Colombian managers have a high capacity for self-motivating.*

### Methodology

To achieve the research objective, the contrast of the hypotheses was conducted in a sample of Colombian managers. These managers are suitable for empirical test for several reasons. Managers must have at least one subordinate in charge, should work in companies in various sectors and the sample was delimited in managers from Colombia.

The study focuses on Colombian managers who share similar demographic characteristics such as education level and gender. Management data were obtained from secondary sources such as

databases of chambers of commerce, business directories available on the Internet, and publications of Colombia during the period 2010-2012.

Managers completed the questionnaire in-person. The questionnaire identified the industry, which was categorized as: banking and finance, hospitality and tourism, biosciences and chemistry, environment and renewable energy, new materials and engineering, information technology, and services. The overview of the questionnaire is given in Table 1.

### Measurement and analysis

Demographics of managers (identification and control variables) as the dimensions of EI, identified above, from Emotional Intelligence Scale (Wong & Law, 2002) were considered in the questionnaire. To operationalize the type of data scale, 7-point Likert, participants answered agree or disagree to the affirmation presented in each question from 1 (strongly disagree) to 7 (strongly agree) grouping variables to measure the factors of EI representing concepts.

Recording and data validation was done with SPSS. An exploratory factor analysis (EFA) based on principal components analysis was performed. The objective was to simplify the data summarizing

**TABLE 1**  
*Technical details of the questionnaire*

Population and area of research	3,267 Colombian managers from various economic sectors
Geographical scope	Colombia.
Economic sectors	Financial, trade, construction, industrial (manufacturing), communications, and transport.
Method of obtaining information	Questionnaire
Sampling Procedure	Questionnaire sent to all companies in the population
Reply	
Sample size	557
Sampling error for finite population	4.2%
Confidence level	97%
To whom the questionnaire is addressed	Colombian managers with at least one subordinate
Work Period	2010-2012

Source: own work

the information contained in a large number of observed variables from Likert type for fewer measures called factors, which did not have a hypothesis about their number nor their structure.

The EFA studies all possibilities, to finally select the most likely, according to the data collected (Uriel & Aldás, 2005). It also ensures the unidimensionality, reliability, convergent and discriminant validity thereof.

As mentioned, there has been an EFA from the technique of principal components and rotation Quartimax iterated. Before it was calculated the coefficient alpha reliability of Cronbach Bartlett and contrast for the 16 observed variables measured with a Likert scale of 7 points, used in the questionnaire. The statistical results of the scale show the following values: media = 90.6, variance = 102.95, and standard deviation = 10,146. Cronbach's alpha yielded a value of 0.845. Therefore, the scale is reliable and there is intercorrelation between the variables of the scale (Cronbach, 1951; Thietart, 2003). The measure of sampling adequacy Kaiser-Meyer-Olkin is 0.842, which means that the ratio between the variables is high. Bartlett's test ( $\chi^2 = 3284.909$ ,  $df = 120$ , and  $p = 0.000$ ) rejects the null hypothesis of no significant correlation between the observed variables. In conclusion, it is appropriate to apply the analysis of principal components to the variables.

Subsequently, a cluster analysis was performed whose main purpose is to group subjects based on the characteristics they possess, classifying subjects so that each one is very similar to the ones in the cluster with respect to some predetermined selection criteria. The resulting clusters should show a high degree of internal homogeneity and high external heterogeneity (Hair Jr, J. F., Black, W. C., Babin, B. J. & Anderson, R. E., 1995).

The theoretical value of the cluster analysis is the set of variables representing characteristics used to compare objects in this analysis: since the theoretical value of the cluster analysis includes only the variables used to compare objects that determine the character of the objects (Johnson, 1998).

Once the variables were selected, the cluster analysis was performed following the approach of

using a combination of hierarchical methods: in the first stage of the partition, the method used is from Ward, in order to establish the number of clusters and centroids, corroborating the result with the farthest neighbor method. The Ward method was chosen to minimize internal differences of each cluster and avoid the problems of inadequate initial chaining combinations, which has the nearest neighbor method (Hair et al., 1995).

## Results

There were identified four factors consistent with the hypotheses: Self-Awareness, Empathy, Self-Regulation and Self-Motivation. The first factor Self-Awareness was measured by the following variables: clarity about why certain feelings exist, understanding own emotions, understanding own feelings and personal analysis about being happy or not. The second factor Empathy was measured through the variables: understanding friends' emotions, observing others' emotions, sensitivity to others' emotions and feelings, and a well understanding of emotions of those around. The third factor Self-Regulation was measured with the variables: capacity of control of temper and rational management of emotions, ability to control emotions, keeping calm in anger situations, and control of own emotions. The fourth factor Self-Motivation was measured through the variables: setting and achieving objectives, metalization of competent person, self-motivation, and personal motivation to give one's best.

The EFA has been made with the principal components method. In applying this method, the decision rule allowed for the retention of a significant number of common factors, those with an eigenvalue greater than 1. Moreover, the matrix of coefficients of correlation was used for grouping variables. Together with the principal components method, in order to interpret the retained factors clearly, the method orthogonal rotation process was used through the normalize Quartimax method. The extraction yields a result of four factors retained (with eigenvalue greater than 1). The four factors explain 62.523% of the total variance of the observed variables. The EFA results are shown in Table 2.

**TABLE 2.**  
*Rotated Component Matrix\**

	Observed Variables	Component			
		1	2	3	4
1	Capacity of control of temper and rational management of emotions	0.062	0.128	0.118	0.780
2	Ability to control emotions	0.152	0.179	0.088	0.802
3	Keeping calm in anger situations	0.279	0.145	0.074	0.723
4	Control of own emotions	0.022	0.317	0.328	0.364
5	Setting and achieving objectives	0.018	0.055	0.744	0.141
6	Mentalization of competent person	0.030	0.082	0.820	0.112
7	Self Motivation	0.114	0.014	0.717	-0.046
8	Personal motivation to give one's best	0.188	0.197	0.728	0.082
9	Understanding friends' emotions	0.083	0.691	0.208	0.136
10	Observing others' emotions	0.081	0.756	0.035	0.120
11	Sensitivity to others' emotions and feelings	0.216	0.792	0.093	0.136
12	A well understanding of emotions of those around	0.285	0.756	0.026	0.062
13	Clarity about why certain feelings exist	0.821	0.152	0.077	0.085
14	Understanding own emotions	0.820	0.218	0.103	0.075
15	Understanding own feelings	0.735	0.080	0.071	0.092
16	A personal analysis about being happy or not	0.829	0.186	0.119	0.190

\*Extraction Method: Principal Component Analysis. Rotation Method: Quartimax with Kaiser Normalization. Rotation converged in 4 iterations.

Source: own work

Then it was proceeded to compare and re-specify, through a confirmatory factor analysis (CFA), the above four factors. To do this, performing this second sequence in the factor analysis to overcome the limitations of the principal components method, was considered appropriate and thus to be able to contrast and refine new extracted factors. The desire is to strengthen the dimensionality of the factors, the reliability of each as well as the convergent and discriminant validity. Once the CFA the corresponding re-specifications were made, the following four factors were identified, Self-Awareness, Empathy, Self-Regulation and Self-Motivation, described below. The CFA results are shown in Table 3.

As shown in Table 2, the four factors obtained demonstrate significant results. With regard to internal consistency, Cronbach's alpha is calculated with the final variables in each factor. For factor

1 Cronbach's alpha has a value of 0.847; factor 2 of 0.791; factor 3 of 0.768; and factor 4 of 0.699. According to the literature, the factor 1 shows good internal consistency and the factors 2, 3 and 4 acceptable. Therefore, we conclude that there is convergent validity, reliability and internal consistency of both the scale factors and grouped.

Note that in the exploratory and confirmatory sequence of factor analysis, it was found that the dimensions of EI, Self-Awareness, Empathy, Self-Regulation and Self-Motivation identified in Colombian managers are developed as joint processes that favor the efficient management of managers and more understanding of both the business context and relationships of employees.

Therefore, the four hypotheses in this empirical study are contrasted. Results support the research that establishes a characterization of EI in Colombian managers.

**TABLE 3.**  
*Observed variables and results from factors*

Factors	Observed Variables	Factor loadings	KMO	Barlett Test
F1. Self-Awarness	Capacity of control of temper and rational management of emotions	0.848	0.773	$\chi^2 = 1055.582$ GL = 6 p = 0.000
	Ability to control emotions	0.861		
	Keeping calm in anger situations	0.742		
	Control of own emotions	0.879		
F2. Empathy	Setting and achieving objectives	0.731	0.775	$\chi^2 = 653.261$ GL = 6 p = 0.000
	Mentalization of competent person	0.760		
	Self Motivation	0.846		
F3. Self-Regulation	Personal motivation to give one's best	0.802	0.727	$\chi^2 = 611.839$ GL = 6 p = 0.000
	Understanding friends' emotions	0.761		
	Observing others' emotions	0.829		
	Sensitivity to others' emotions and feelings	0.711		
F4. Self-Motivation	A well understanding of emotions of those around	0.778	0.724	$\chi^2 = 463.983$ GL = 6 p = 0.000
	Clarity about why certain feelings exist	0.762		
	Understanding own emotions	0.826		
	Understanding own feelings	0.784		
	A personal analysis about being happy or not	0.558		

Source: own work

Moreover, the application of cluster analysis allowed grouping and comparing between the 16 observed variables. The method chosen was K-means, where it first extracted 2 groups, with the following results:

To confirm the number of groups, an Anova analysis was done, as table 4 shows. This indicates what variables contribute more to the solution of the clusters. Thus, variables with large values of F provide greater separation between the clusters. The variable that provides greater separation between clusters is 'Control of own emotions' with  $F = 213.577$ . The least separation is, 'Sensitivity to others' emotions and feelings', with  $F = 36.382$ .

The F tests should be used only for descriptive purposes because the clusters have been chosen

to maximize the differences among cases in the distinct clusters. Critical levels are not fixed, so it cannot be interpreted as evidence for the hypothesis that the cluster centers are equal.

Finally, we proceeded to check the number of cases in each. Taking the first group 187 cases, and the second group 370 cases, as shown in the table below:

Finally, contingency analyses of the clusters were performed by the demographic variables of the study: age, gender, and education level. Regarding the variable 'age', the results show that there is no clear pattern between cluster membership and age. Therefore, the proportion of respondents over 21 years old in cluster 2 is low. Also in cluster 2 re-

**TABLE 3.**  
*Distances between centers of final clusters*

Cluster	1	2
1		4.214
2	4.214	

Source: own work

**TABLE 5.**  
*Number of cases in each cluster*

Cluster	1	187.000
	2	370.000
Valid		557.000
Lost		4.000

Source: own work

**TABLE 4.**  
ANOVA

	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Clarity about why certain feelings exist	137.421	1	1.304	555	105.376	0.000
Understanding own emotions	118.656	1	0.859	555	138.055	0.000
Understanding own feelings	138.735	1	0.808	555	171.654	0.000
A personal analysis about being happy or not	159.588	1	1.507	555	105.905	0.000
Understanding friends' emotions	185.647	1	1.382	555	134.358	0.000
Observing others' emotions	154.225	1	1.274	555	121.045	0.000
Sensitivity to others' emotions and feelings	54.646	1	1.502	555	36.382	0.000
A well understanding of emotions of those around	130.464	1	0.931	555	140.188	0.000
Setting and achieving objectives	121.399	1	0.935	555	129.827	0.000
Mentalization of competent person	82.542	1	0.801	555	103.057	0.000
Self Motivation	122.120	1	0.862	555	141.694	0.000
Personal motivation to give one's best	78.370	1	0.796	555	98.418	0.000
Capacity of control of temper and rational management of emotions	180.400	1	1.053	555	171.274	0.000
Ability to control emotions	183.756	1	0.986	555	186.321	0.000
Keeping calm in anger situations	169.715	1	1.516	555	111.920	0.000
Control of own emotions	188.564	1	0.883	555	213.577	0.000

Source: own work

spondents who are younger than 20 years old were identified. Importantly, this cluster has low level of emotional intelligence.

Table 6 shows that, the ratio in cluster 2 is high in all age categories. This conglomerate has a high capacity of EI.

**TABLE 6.**  
*Cluster Contingency Analysis by Age*

	20 years or less 21-25 years	Age			Total		
		26-35 years	36-45 years	46-60 years			
Cluster 1	Count	2	20	105	43	17	187
	% within Cluster Number of Case	1.1%	10.7%	56.1%	23%	9.1%	100%
	% within Age	28.6%	30.8%	33.8%	32.1%	42.5%	33.6%
Cluster 2	% of Total	0.4%	3.6%	18.9%	7.7%	3.1%	33.6%
	Count	5	45	206	91	23	370
	% within Cluster Number of Case	1.4%	12.2%	55.7%	24.6%	6.2%	100%
Total	% within Age	71.4%	69.2%	66.2%	67.9%	57.5%	66.4%
	% of Total	0.9%	8.1%	37.0%	16.3%	4.1%	66.4%
	Count	7	65	311	134	40	557
% within Cluster Number of Case	1.3%	11.7%	55.8%	24.1%	7.2%	100.0%	
% within Age	100%	100%	100%	100%	100%	100%	
% of Total	1.3%	11.7%	55.8%	24.1%	7.2%	100%	

Source: own work

**TABLE 7.**  
*Cluster Contingency Analysis by Gender*

			Gender		Total
			Man	Woman	
Cluster Number of Case	1	Count	94	93	187
		% within Cluster Number of Case	50.3%	49.7%	100%
		% within Gender	32.1%	35.2%	33.6%
	2	% of Total	16.9%	16.7%	33.6%
		Count	199	171	370
		% within Cluster Number of Case	53.8%	46.2%	100%
Total	Count	% within Gender	67.9%	64.8%	66.4%
		% of Total	35.7%	30.7%	66.4%
		Count	293	264	557
% within Cluster Number of Case			47.4%	100%	
% within Gender		100%	100%	100%	
% of Total		52.6%	47.4%	100%	

Source: own work

The contingency of the clusters and the variable ‘gender’ analysis shows that the majority of respondents who have high emotional intelligence capabilities are men. Many women also have high capacity but as much EI as men. The results demon-

strate the expressed by Del Valle and Castillo (2012) who propose that there are qualitative differences in EI between men and women.

Finally, as seen in table 8, the contingency analysis of clusters and the variable ‘education level’, in

**TABLE 8.**  
*Cluster Contingency Analysis by Education level*

Secondary Incomplete university		Education level				Total	
		Full university	Post-graduate				
Cluster Number of Case	1	Count	25	16	95	51	187
		% within Cluster Number of Case	13.4%	8.6%	50.8%	27.3%	100%
		% within Education level	43.9%	27.1%	36.4%	28.3%	33.6%
	2	% of Total	4.5%	2.9%	17.1%	9.2%	33.6%
		Count	32	43	166	129	370
		% within Cluster Number of Case	8.6%	11.6%	44.9%	34.9%	100%
Total	Count	% within Education level	56.1%	72.9%	63.6%	71.7%	66.4%
		% of Total	5.7%	7.7%	29.8%	23.2%	66.4%
		Count	57	59	261	180	557
% within Cluster Number of Case		10.2%	10.6%	46.9%	32.3%	100%	
% within Education level		100%	100%	100%	100%	100%	
% of Total		10.2%	10.6%	46.9%	32.3%	100%	

Source: own work

cluster 1 show low values in all levels. In cluster 2 has the best values in terms of levels of education and marked therefore high capacity of EI.

**Findings**

Among the key findings was found that the dimensions of EI (self-awareness, empathy, self-regulation and self-motivation), identified in Colombian managers, were developed as a joint process that favor the efficient management of the managers and a greater understanding of both the business context and interpersonal relationships of collaborators.

The hypotheses in this study are supported. The result of the empirical study establishes the characterization of EI in Colombian managers.

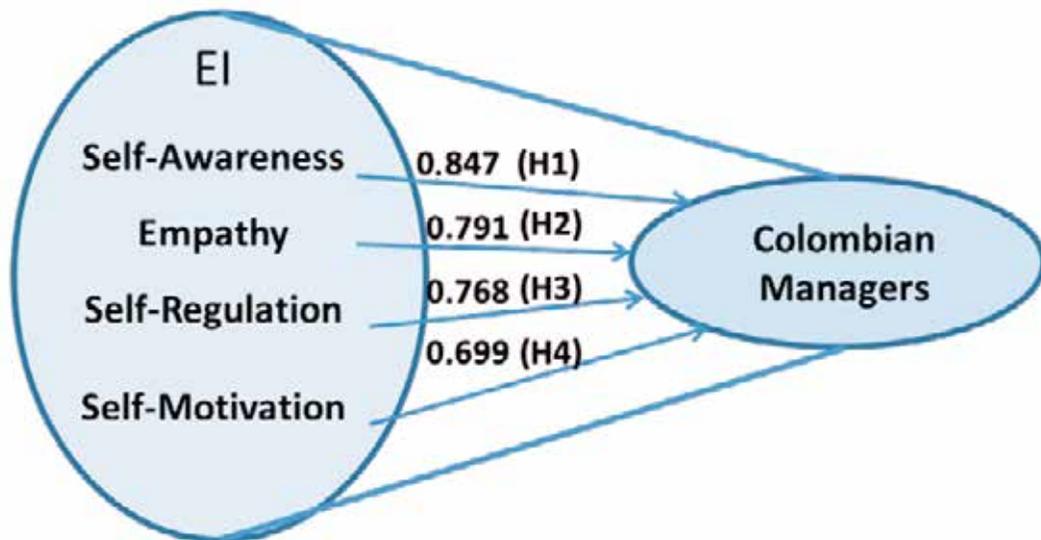
The results highlight the importance of the dimensions of EI (self-awareness, empathy, self-regulation and self-motivation) identified because they favor the efficient management of both management and labor understanding context and relationships of collaborators. The establishment of a climate of openness and welfare, where they share experiences, ideas and knowledge and at the same time, an overall perception of the company is equally important.

As a result of the findings of the empirical study, graphically establishes the proposal model of the characterization of EI in Colombian managers.

The representation of the model gives greater clarity to the relationships from the dimensions of EI and, in turn, generates discussion about the observed variables and their application in Colombian managers.

**Final considerations**

The results of the empirical study show relevant information on the characterization of EI in Colombian managers. As various studies have shown the EI affects professional achievements (Goleman, 1996) and professional achievements usually happen at work and highly emotional environment (Wong & Law (2002). These assumptions were crucial both to characterize the profile of Colombian managers and their capabilities in relation to the dimensions of EI (Self-Awareness, Empathy, Self-Regulation and Self-Motivation). The research dimensions allow for the valuing of the abilities of managers to understand and recognize their own emotions and their team members. Applying Scale Emotional



Graph 1. Proposal model of the characterization of EI in Colombian managers

Source: own work

Intelligence Wong and Law (2002) composed of 16 variables likert 7 point, assessed in sample of 557 Colombian managers.

For the analysis of demographic variables the results show that individuals grouped in cluster 2, have a high capacity for EI. This situation is repeated in the same cluster for the variable 'age', as more homogeneous values are observed between the ages of 21 to 60 years. In this regard it should be mentioned that individuals aged 20 years or less, exercise levels of management in new ventures or companies in technology sectors, the opposite is true for individuals aged 60 years and older who exercise management levels in companies consolidated mature sectors, mainly services, and banking and finance.

For the variable 'gender', although higher values have no distance between them, there more men in cluster 2, which as mentioned these individuals have high capacity and EI; conversely, the higher percentage of women are grouped in the cluster 1, that exhibits low capacity EI.

Finally, the variable 'education level' reveals that in cluster 2, individuals who possess all levels (high school, finish college, complete college and graduate) have higher values compared to clusters 1. However, while cluster 1 shows the lowest percentages, it exposes low levels of education of Colombian managers. It is worth mentioning that this variable measures the level of education of managers and not the way they develop their skills and abilities in their performance.

The main implications of the study are theoretical and practical. Theoretically, a conceptual framework is exposed related to EI and Colombian managers, rarely discussed in the literature, which has guided and supported the objective of this research. On a practical level, contributions are presented, based on the proposed characterization and its graphical representation as proven model that helps company managers, especially those who work in dynamic environments, to understand how the influence of the dimensions of EI (Self-Awareness, Empathy, Self-Regulation and Self-Motivation) identified in Colombian managers are developed as a joint processes that favor the ef-

ficient management of both, labor understanding context and relationships of team members.

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