# Special issue on emotional intelligence: An overview

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Emotional Intelligence (EI) has generated a broad interest both in the lay and scientific fields. Since the development of the concept, research on EI is increasing exponentially. Prestigious scientists from different lines of research contribute to this Special Issue on EI, assessing important theoretical and empirical topics on this construct. The first section of the Special Issue comprises manuscripts reviewing current models and approaches to EI, together with theoretical aspects of the concept. One of the most important topics on EI regards the measurement of the concept, the second section of this issue deeply assesses this matter presenting original investigations on the three approaches available for the measurement of EI. Subsequently, the impact of EI on applied fields, specifically on health, education, and organizations is described and supported by scientific papers in the last section of this Special Issue.

Número especial de inteligencia emocional: una visión general. La Inteligencia Emocional (IE) ha generado un amplio interés entre el público general y en el ámbito científico. Desde el desarrollo del concepto, la investigación en IE aumenta exponencialmente. Siguiendo diferentes líneas de investigación, prestigiosos científicos contribuyen en este número especial de IE analizando aspectos importantes, teóricos y empíricos, del constructo. La primera sección de este número especial comprende artículos que revisan los modelos y las aproximaciones actuales a la IE, junto a aspectos teóricos del concepto. Uno de los temas más importantes en IE hace referencia a la evaluación del propio constructo. La segunda sección de este número analiza en profundidad este tema, presentando investigaciones originales procedentes de las tres aproximaciones disponibles para medir la IE. Seguidamente, el impacto de la IE en el ámbito aplicado, concretamente en la salud, la educación y las organizaciones, es revisado y apoyado por los resultados de los artículos científicos de la última sección de este número.

This Special Issue began with a general call for papers sent on March, 2004, which fortunately received a generous response, not just because of the number of participants, but also because of the great quality of the contributions. Authors from different countries who develop different theoretical models and use different instruments to assess Emotional Intelligence (EI) show us the diversity and affluence of current research on EI. Guest editors would like to thank all contributors for their effort and satisfactory response to the comments raised by the reviewers, and for their positive mood throughout the complete process. On the other hand, guest editors thank the external reviewers for their critical and constructive comments which have substantially improved the quality of this Special Issue.

# Theoretical topics on EI

This Special Issue begins with three theoretical papers regarding different topics about EI. The opening paper by Pablo Fernández-Berrocal and Natalio Extremera (Fernández-Berrocal & Extremera, 2006a) presents a theoretical and empirical

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Correspondence: Pablo Fernández-Berrocal Faculty of Psychology University of Málaga 29071 Málaga (Spain) E-mail: berrocal@uma.es overview of the first 15 years of history of EI. The broad interest on this concept is shown through qualitative and quantitative indexes. The authors describe current theoretical models of EI: the EI ability-based model (Mayer & Salovey, 1997); the Bar-On Model of Emotional-Social Intelligence (ESI; Bar-On, 1997; 2006); and Goleman's model of EI (Boyatzis, Goleman, & Rhee, 2000; Goleman, 2001). Finally, some relevant keys about future considerations for research on EI are proposed.

One of the three competing models of EI is the one formulated by Reuven Bar-On, who describes his model The Bar-On Model of Emotional-Social Intelligence (ESI) for this Special Issue (Bar-On, 2006). Bar-On's model of EI differs from ability models, in a way that combines mental abilities with other characteristics distinguishable from mental abilities. Bar-On's empirically based theoretical paper presents, describes, and examines the Bar-On model of ESI. Bar-On first describes the Emotional Quotient Inventory (the EQ-i) which has played an instrumental role in developing the model. The EQ-i is a selfreport measure of emotionally and socially intelligent behavior, it has been translated into more than 30 languages, and data have been collected around the world. The development of the EQ-i helped to create the model of ESI. The impact of age, gender, and ethnicity on the Bar-On model is presented. A description of the model's construct and predictive validity is given. Finally, the author summarizes the key points, discusses the limitations of the model, and raises the ideas for developing a future model of ESI.

Emotional thoughts are often accompanied by additional or second order thoughts relevant for perceiving and regulating emotion. Pablo Briñol, Richard Petty and Derek Rucker (Briñol, Petty, & Rucker, 2006) analyse the role of these meta-cognitive processes in EI. The authors provide a general meta-cognitive framework useful for classifying secondary thoughts and review research concerning: how primary emotional thoughts are affected by meta-cognitive confidence; how meta-cognitive processes can influence first level cognition; how these emotional thoughts at the primary and secondary levels can influence one another; and finally, how mood and emotional thoughts can play multiple roles in cognition and meta-cognition depending on the circumstances.

#### The assessment of EI

One of the most important issues regarding EI concerns the assessment and measurement of this construct. Although the debate is still open, nowadays different approaches for measuring EI are well established and, at the moment, the strengths and limitations of each one of these approaches are analysed. Currently, debate about EI focuses on the significant contribution of this concept to the explanation of human behavior and its original giving to the individual differences field (Geher, 2004).

This section of the Special Issue is composed of scientific papers analysing the EI construct from the three approaches available for the assessment of EI: ability measures, self-report measures, and 360-Degree measures. First, this section begins with a review article regarding the measurement instrument developed from the ability model of EI (Mayer & Salovey, 1997). In this paper, Marck Brackett and Peter Salovey examine the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT: Mayer, Salovey, & Caruso, 2002; Brackett & Salovey, 2006). The authors begin with a brief review of the four-branch model of EI. then describe the MSCEIT, its subtests, scoring method, psychometric properties, reliability, and factor structure. Next, the authors review a number of applied studies that have employed the MSCEIT and have shown that the test has discriminant, convergent, predictive, and incremental validity. The instrument shows appropiate discriminant validity from measures of other classic constructs such as cognitive abilities and personality traits. After that, the authors report findings regarding the low correlations of MSCEIT scores with self-reported mesasures of EI, suggesting that these approaches assess different constructs or, at least, different aspects of the same construct. Finally, the authors review evidence that demonstrate the incremental validity of the test when predicting important outcomes such as academic performance, cognitive processes, psychological well-being, depression, anxiety, prosocial and maladaptive behavior, and leaderships and organizational behavior. In their conclusions section, authors, cautiously but optimistically, encourage several lines of research under their EI model using the MSCEIT.

Natalio Extremera, Pablo Fernández-Berrocal and Peter Salovey (Extremera, Fernández-Berrocal, & Salovey, 2006) present their preliminary results from the adaptation of the MSCEIT to the Spanish population. The authors begin remarking the need to validate and adapt objective instruments to measure EI, beyond instruments based on individuals' perceptions and beliefs about their own emotional abilities, to the Spanish population. For this reason, the authors have worked on the adaptation of the Spanish version of the MSCEIT v. 2.0, together with the Yale

University group. After a rigorous back-translation process and verification of its reliability, findings are presented taking the ability model of EI as a reference (Mayer & Salovey, 1997), and considering several criteria that EI measures should meet. Although further studies are needed to confirm its factor structure in Spanish samples, the findings presented by the authors indicate that the Spanish version of the MSCEIT is a suitable instrument to measure emotional abilities as proposed by Mayer and Salovey (1997), and allows as well for exploration of basic theoretical issues related to cultural differences in EI.

In the next paper, Kimberly Barchard and James Russell make a profound study of an issue arisen from the use of ability measures, regarding the scoring method and the obtention of emotionally correct answers (Barchard & Russell, 2006). The creators of ability measures developed two scoring methods, consensus and expert scoring, to determine people's level of EI. However, these scoring methods have been found not to be completely reliable and problems arise when categorizing an emotional answer as a correct answer (Geher, 2004; Roberts, Zeidner, & Matthews, 2001). In this paper, the authors focus on the consensus scoring method, distinguishing two variations of this method: mode consensus scoring and proportion consensus scoring. Strenghts of the proportion consensus scoring and the limitations of the mode consensus scoring when small groups are evaluated are given. The authors then justify theoretically and mathematically the use of the proportion consensus scoring method. This procedure emerges as a promising one, and it fits the manner people manage and solve, rightly or not, depending on the precise context, everyday problems.

In the next paper Martha Tapia and George E. Marsh present a validation of a self-reported scale based on the original, and later reformulated, model of Salovey and Mayer (1990; Mayer & Salovey, 1997): the *Emotional Intelligence Inventory* (EII; Tapia & Marsh, 2006a). The authors present evidence of the concurrent validity of the EII when their scale is compared with other widely used self-reported measure, the *Emotional Intelligence Scale* (EIS; Schutte, Malouff, Hall, Haggerty, Cooper, Golden, & Dornheim, 1998). Their results indicate that the EII shows concurrent validity across and by gender, and the authors remark the usefulness of their scale. They propose that this instrument allows a precise subdivision by subfactors, which leads to a better evaluation and later training of the areas that require a specific improvement.

Travis Bradberry and Lac Su examine one of the less investigated approaches to assess EI (as compared to self-reported and ability measures): the multi-rater feedback or 360-degree ratings (Bradberry & Su, 2006). The authors present their work about the predictive validity of the instrument Emotional Intelligence Appraisal™, based on the model of EI developed by Goleman, Boyatzis, and McKee (2002) using the 360-degree assessment. The study analyzes leader EI scores, measured via the Emotional Intelligence Appraisal™ and the ability measure MSCEIT, against leader job performance as rated by employees from three organizations. The authors inform that scores on the Emotional Intelligence Appraisal™ slightly correlate with scores on the MSCEIT. Also, they analyse the ability of the instruments to predict job performance. Results show that the Emotional Intelligence Appraisal™ is a good measurement method, and a predictor of leader job performance.

Evidence suggests that while humans are inaccurate in their judgements of others, perception of emotion seems accurate and

nearly universal. In the last paper of this section, Robert Jones, Michelle Chomiak, Andrea Rittman, and Teresa Green deepen in this issue and examine in their study the accuracy of human judgements of others' motive levels, and the extent to which emotive cues contribute to these judgements (Jones, Chomiak, Rittman, & Green, 2006). In their study, the authors confirm that motive perception is something people do well, efforts rating are substantially correct, and emotion checklist is fairly accurate. Noticeably they find significant correlations between emotion checklist items and effort and motivation ratings, most of the variance in motivation ratings is accounted for by emotion ratings, showing that motive perception is strongly related to emotive perceptions. The authors discuss the importance of the dimensions of EI perception and interpretation of emotions, and the implications of their findings.

#### EI and health

An important contribution of research on EI is to analyze the weight and helpfulness of this construct for the individual. Health becomes one of the most important fields where EI could develop its contributions. Given the importance of stress regulation for psychological and physiological health, successful stress management is of undoubt importance nowadays. Models of EI consider stress management especially relevant, and theoretically, EI emerges as a protective factor against stress. Research regarding whether EI can protect people against stress is needed, thus, to date, few studies have analized this issue. This section of the Special Issue presents several studies related to this matter.

Pablo Fernández-Berrocal and Natalio Extremera analyse the influence of EI on emotional responses in laboratory context (Fernández-Berrocal & Extremera, 2006b). Specifically, the experiment investigates: how does EI affect previous mood states? How does persons' emotional reactivity to different mood induction conditions depend on their EI? And, how does EI help to a better mood recovery? EI is first asssessed by Trait Meta-Mood Scale (TMMS) one month before the experimental session. The TMMS is a self-reported measure of EI that assesses perceived ability to (a) attend to moods (Attention), (b) discriminate clearly among moods (Clarity), and (c) regulate moods (Repair) (Salovey, Mayer, Goldman, Turvey and Palfai, 1995). The experiment comprises three phases. At time 1 experimenter assesses mood states of the participants before mood induction. At time 2 (mood reactivity phase), participants are randomly assigned to one of the three experimental conditions: amusement, anger, and sadness mood conditions. Subsequently participants are assessed in their mood states. At time 3 (mood recovery phase), following a rest period participants are evaluated in mood states and intrusive thoughts measures. Results indicate that EI, specifically Clarity and Repair, is related to previous mood states, emotional reactivity to mood induction conditions, and emotional recovery. Clarity and Repair play different but complementary roles in processing emotional situations generated in laboratory context. In this sense, EI could join the list of personal and interpersonal factors that contribute to the efficient processing of positive and negative emotions.

Moïra Mikolajczak, Olivier Luminet, and Clémentine Menil study whether trait EI, assessed via a self-reported measure, would be associated with self-reported mental and physical health (Mikolajczak, Luminet, & Menil, 2006). Then, they examine the

effect of trait EI upon the relationship bewteen stress (academic exams choosen as the stressor) and psychological and somatic health, controlling for alexithymia and optimism. Trait EI is significantly associated with enhanced self-reported mental and physical health, and significantly moderates the relationship between stress and self-reported health. Moreover, trait EI predicts both mental and somatic symptoms in the course of stress over and above alexithymia and optimism, giving these results support to the protective actions of EI.

Carmen Velasco, Itziar Fernández, Darío Páez and Miryam Campos examine how the TMMS and the Taylor Alexithymia Scale (TAS; Taylor, Ryan, & Bagby, 1994) are related to coping and affect regulation, using social support, perceived stress, depression, and affect balance as indexes (Velasco, Fernández, Páez, & Campos, 2006). The authors find that the TMMS and TAS subfactors converge in two different dimensions: Clarity and Regulation, and Attention. Clarity and Regulation are associated to an adaptative profile of coping with stress.

Nowadays a major public health concern affects smoking, alcohol consumption, and the use of cannabis and psychostimulant drugs among young people. If EI could be a protective factor against smoking, alcohol consumption, and substance abuse, seems an important field for research. In this sense, Joaquín Limonero, Joaquín Tomás-Sábado, and Jordi Fernández-Castro analyse the role of perceived EI, measured with the TMMS, in the use of tobacco and cannabis in undergraduates (Limonero, Tomás-Sabado, & Fernández-Castro, 2006). This paper is novel because it is the first research on the relationship between EI and cannabis use. The authors find that, in their sample, the students who consume tobacco or cannabis present low levels of Repair and also are those who started consuming tobacco or cannabis at an earlier age. Occasional consumption of cannabis seems to be related to Clarity, thus, students with high scores are those who consume less. The authors discuss these findings, considering that drug use is a complex problem in which EI might exert a relevant role, and also discuss the implications of these results for the prevention of smoking and the use of cannabis.

## EI and education

Salovey and Mayer (1990) opened up the study of the role of emotional abilities in student learning and social adaptation by proposing a theory of EI in the academic literature. Since then, several studies have focused on the role of emotions on education, with the hope to integrate emotional literacy into existing school curriculum. In this section of the Special Issue, the authors present their papers, most of them supporting the relationship between EI and academic success, but also, the discriminant and incremental validity of EI is also shown, verifying that EI is related to academic grades and social competence after controlling for potentially confounding variables such as general intelligence and personality characteristics.

Sensitivity and emotionality are adjetives frequently used to describe artists. Whether the concept of EI could be used to describe them is something we still do not know, but research on art students suggest EI contributes to art education. K. V. Petrides, Lisa Niven, and Thalia Mouskounti present an original investigation of EI in art education (Petrides, Niven, & Mouskounti, 2006). Specifically, authors examine the trait EI of ballet dancers and musicians. Authors first examine the

relationship between self and other ratings of trait EI, and then between trait EI, particularly on dimensions such as self-motivation, emotional expression, and emotional skills, and ballet dancing ability. Subsequently, these authors investigate if individual differences in EI of musicians are related to how long people choose to stay in musical training. Results show significant EI associations with ballet dancing ability and length of musical training. The paper also demonstrate that the instrument used, the *Trait Emotional Intelligence Questionnaire* (TEIQue; Petrides & Furnham, 2005), can provide complete and valid measurement of the construct, showing good psychometric properties.

Martha Tapia and George E. Marsh II examine the effects of sex and grade-point average (GPA) on EI on secondary students as measured by the EII (Tapia & Marsh, 2006a; 2006b). Their results show that females score higher than males in empathy and that students with the highest GPA score higher on self-control than students with a lower GPA.

José Miguel Mestre, Rocío Guil, Paulo Lopes, Peter Salovey and Paloma Gil-Olarte present a paper examining the relationship between EI and social and academic adaptation to school in a sample of Spanish high-school students (Mestre, Guil, Lopes, Salovey, & Gil-Olarte, 2006). EI, assessed by the Spanish Version of the MSCEIT (Extremera et al., 2006) correlates positively with teacher ratings of academic adaptation for both boys and girls. Among girls, EI correlates with friendship nominations. After controlling for IQ and the Big Five personality traits, EI remains significantly associated with teacher ratings of academic adaptation among boys and peer friendship nominations among girls. The authors discuss their results considering that EI contribute to students' social and academic adaptation to school, and discuss the implications and possible useful consequences of these findings.

Paloma Gil-Olarte, Raquel Palomera, and Marc Brackett investigate the discriminant, criterion, and incremental validity of the Spanish Version of the MSCEIT (Extremera et al., 2006), together with academic performance of High school students (Gil-Olarte, Palomera, & Brackett, 2006). In this study, the MSCEIT is discriminable from well-established measures of personality and intelligence. The test is also moderately related to social competence and predicts students' final grades. Most of these findings remain significant after personality and academic intelligence are controlled for, supportting the relationship between EI and prosocial/maladaptive behavior and academic achievement. The authors discuss the potential use of EI in the context of academic institutions.

### EI and organizations

The organizational field is quite attractive to demonstrate what emotionally intelligent workers can do for companies and institutions. To some authors, persons with high EI should have more adaptive and positive outcomes in their job. Concretely, these employees should have better relations with work mates and managers, better work performance, and higher satisfaction and compromise with work and the organization, among others. However, research on the predictive value of EI and its usefulness within the workplace is still sparse. While within health and educational fields studies focused on academic performance and well being are encouraging, in organizations, the idea of improving employee's EI to improve their work performance,

productions, and their well-being at the workplace must be confirmed and validated, and require, as EI detractors consider, rigorous and strong research (Matthews, Zeidner, & Roberts, 2002).

In this section of the Special Issue, scientific papers show evidence that employees with higher EI, evaluated via self-report measures, ability measures, and external raters, present higher leves in certain variables of job performance and employment and personal well-being than work mates with lower EI.

Richard Boyatzis examines, in a longitudinal study conducted in a large multi-national consulting company, the EI competencies necessary for outstanding finantial performance (Boyatzis, 2006). Moreover, the study also examines which level of EI competencies is necessary to predict outstanding finantial performance among leaders of several organizations. This study is of special relevance within the EI fields at least because of three reasons: 1) the use of a 360° questionnaire assessment, a method of measurement that overcomes the critics to self-report and ability measures; 2) the novel use of an analysis methodology in EI research, the tipping point analysis, which allows examination of how much of the competency is sufficient for outstanding performance; and, finally, 3) the use of objective criterion variables of finantial performance. Among the findings, the author remarks the importance of EI competencies upon cognitive competencies predicting financial performance of leaders, and the sensitive application of this knowledge to the selection and training of leaders for the future.

Paulo Lopes, Daisy Grewal, Jessica Kadis, Michelle Gall, and Peter Salovey present the relation between EI and positive workplace outcomes examined in analyst and clerical employees (Lopes, Grewal, Kadis, Gall, & Salovey, 2006). In this study, the authors use different indicators of work performance and the MSCEIT to assess EI. The predictive value of EI upon objective variables obtained from the company is shown through external ratings by counterparts who evaluate several indicators of affect, attitudes, and interpersonal facilitation. The study shows that emotionally intelligent individuals receive greater merit increases and hold higher company rank than their counterparts; and they are also considered to show better interpersonal facilitation, stress tolerance, and leadership potential. These relations are independent of personality traits, verbal intelligence, or trait affect. This later aspect is of importance because of the critics to the EI construct regarding its discriminant validy respect to other constructs such as personality traits or verbal intelligence. The findings from this study show that the associations between EI abilities and important positive work outcomes are statistically significant after controlling for other predictors, including verbal ability, personality traits, and trait affect.

Céleste Brotheridge examines the role of EI in predicting emotional labor relative to situational demands in service workers (Brotheridge, 2006). Specifically, the findings support the relation between EI and deep acting in service workers, which is considered to be more adaptive than surface acting. The author examines the predictive value of EI in emotional labor, controlling for situational demands, and a possible moderation effect of EI in the relationship between emotional labor and situational demands. Results indicate a role of EI as a predictor of perceived situational demands, which, in turn, predicts the nature of emotional labor performed.

Following the model proposed by Mayer and Salovey, Paul Harvey and Marie Dasborough present a theoretical model of attributions and emotions, and discuss the role of EI as a moderator (Harvey & Dasborough, 2006). These authors consider that the relation between outcome-dependent affect and attribution formation is moderated by EI. Specifically, authors analyze each one of the dimensions of the ability model of EI, and consider that three of them (perception, facilitation, and understanding) would play an important role upon attribution style, and moderate the relationship between the worker's initial affect response and his/her attributions. The employees' abilities to manage emotions would moderate the relations between their attributional styles and emotional responses to negative outcomes at the workplace. Finally, the authors summarize possible relations between EI abilities with four emotion-driven reactions that may result following a negative outcome: empowerment, learned helplessness, stress, and aggression.

J. M. Augusto, E. López-Zafra, R. Martínez de Antoñana and M. Pulido have analized the relations between perceived EI and satisfaction with life in Spanish college teachers (Augusto, López-Zafra, Martínez de Antoñana, & Pulido, 2006). Self-reported measures of EI have received critics regarding a possible conceptual overlap with other constructs such as affect or alexithymia. The authors examine the incremental role of the TMMS upon satisfaction with life in college teachers, controlling for several demographic variables, negative and positive affect, and alexithymia dimensions. Beyond possible conceptual overlap between alexithymia dimensions and the TMMS, the subfactors Clarity and Repair of the TMMS show significant correlations with satisfaction with life, and moreover, show incremental variance in satisfaction with life when the forementioned variables are controlled for. However, authors find that the two most important significant predictors of satisfaction with life were the worker's affect and his/her own satisfaction with labor.

Auxiliadora Durán, Natalio Extremera, Lourdes Rey, Pablo Fernández-Berrocal and Manuel Montalbán examine the role of perceived EI (measured by the Spanish version of the TMMS) and general self-efficacy as predictors of burnout and engagement

dimensions controlling the influence of demographics characteristics, perceived stress, and self-efficacy (Durán, Extremera, Rey, Fernández-Berrocal, & Montalbán, 2006). Results indicate the relevance of EI as an individual resource and support the hypothesis that this construct accounts for non-overlapping variance on academic burnout and engagement above and beyond classic constructs predicting these criterion measures such as perceived stress and general self-efficacy.

To conclude this Special Issue, and from a different point of view, the paper by Matthias Spörrle, Isabell Welpe and Friedrich Försterling expose how emotionally intelligent behavior may be mediated by the rationality in cognitions through the evoking of adaptive emotions (Spörrle, Welpe, & Försterling, 2006). The authors apply Albert Ellis' cognitive theory of emotion to functional or dysfunctional behavior in the workplace (Ellis, 1994). Empirically, the authors show the effects of emotional and cognitive processes on individual and team level. Using different scenarios and situations described in a questionnarie where people are described as thinking rationally or irrationally, the authors measure the influence of these scenarios and situations by asking participants to assign emotions, ability to perceive and modify emotional states, and identification of the respondent with the persons of the situation. Participants' satisfaction with work life and with overall life is also measured. Results support the correspondence between adaptive emotions and emotionally intelligent behaviour, and that irrational job-related attitudes result in reduced satisfaction with work life.

#### Author note

This research was funded by project N° BSO2003-02573 from the Ministry of Education and Culture. The authors express their sincere thanks to María Blanco, Rosario Cabello, María Cavas, Paulo Lopes, Desiree Ruiz, and Peter Salovey for their valuable comments and for their assistance along the development of this Special Issue.

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