



Please cite the source as:

Extremera, N. & Fernández-Berrocal, P. (2004). The role of student's emotional intelligence: empirical evidence. *Revista Electrónica de Investigación Educativa*, 6 (2). Retrieved month day, year, from: <http://redie.ens.uabc.mx/vol6no2/contents-extremera.html>

Revista Electrónica de Investigación Educativa

Vol. 6, No. 2, 2004

The Role of Students' Emotional Intelligence: Empirical Evidence

El papel de la inteligencia emocional en el alumnado: evidencias empíricas

Natalio Extremera Pacheco (*)
nextremera@uma.es

Pablo Fernández-Berrocal (*)
berrocal@uma.es

* Facultad de Psicología
Universidad de Málaga

Campus de Teatinos s/n
Málaga, España

(Received: January 28, 2004; accepted for publishing July 27, 2004)

Abstract

Emotional intelligence (EI) has attracted great interest in the field of education as a vehicle to improve the socioemotional development of students. The first publications that appeared made a great number of claims about the positive influence of emotional intelligence in the classroom. The only problem was that not all these claims were coupled with empirical research to show, on the one hand, the predictive level of EI, and on the other hand, the actual role of EI in different areas of life. It has been only recently that the effect of a high level of EI exercises on people has been investigated. The object of this article is to examine the most

relevant empirical research done within the educational setting, in order to collect the existing evidence for the influence of EI, evaluated by different instruments, in the personal, social and scholastic functioning of students.

Key words: Emotional intelligence, emotional development, student development.

Resumen

La inteligencia emocional (IE) ha suscitado un gran interés en el ámbito educativo como una vía para mejorar el desarrollo socioemocional de los alumnos. Las primeras publicaciones que aparecieron realizaron multitud de afirmaciones sobre la influencia positiva de la inteligencia emocional en el aula. El único inconveniente fue que todas estas aseveraciones no estaban avaladas por datos empíricos contrastados que demostrasen, por un lado, el nivel predictivo de la IE y, por otro, el papel real de la IE en las distintas áreas vitales. Ha sido recientemente cuando se han investigado los efectos que una adecuada inteligencia emocional ejerce sobre las personas. El objetivo de este artículo es revisar los trabajos empíricos más relevantes realizados dentro del contexto educativo con la finalidad de recopilar las evidencias existentes sobre la influencia de la IE, evaluada mediante diferentes instrumentos, en el funcionamiento personal, social y escolar de los alumnos.

Palabras clave: Inteligencia emocional, desarrollo emocional, desarrollo del estudiante.

Introduction

The concept of emotional intelligence (EI) was first developed in 1990 in an article published by Peter Salovey and John Mayer. However, it was relegated to oblivion for five years, before Daniel Goleman, a psychologist and American journalist with an undeniable commercial viewpoint, great ability to charm, and with common sense, made these two words a fad when he published his book *Emotional Intelligence* (1995). The major thesis of his book can be summarized by stating that we need a new vision of the study of human intelligence beyond the cognitive and intellectual aspects, a vision that would highlight the importance of the use and management of the social emotional world to understand the course of people's lifetimes. Goleman states that there are skills more important than academic intelligence for achieving better employment and greater personal, academic and social welfare. This idea had great resonance in public opinion, and in the judgment of authors such as Epstein (1998), part of the social acceptance and popularity of the term was mainly due to three factors:

1. The fatigue caused by the overvaluation of the intelligence quotient (IQ) during the entire twentieth century, since the IQ had been the most widely used indicator for the selection of personnel and human resources.

2. The widespread antipathy in society toward people who had a high intellectual level, but a lack social and emotional skills.
3. The misuse in the educational environment of IQ test results and evaluations which rarely predicted the actual success that students would have once incorporated into the workplace, and that did not help either in predicting welfare and happiness throughout their lives.

As a consequence of this set of events and after Goleman's best-seller, we were invaded by a wave of all sorts of media information (the press, self-help books, websites, etc.). Moreover, different authors, such as Bar-On (1997), Cooper and Sawaf (1997), Shapiro (1997), Goleman (1998) and Gottman (1997) published the most diverse approaches to the concept, proposed their own components of EI, and produced tools to evaluate the concept. Although the majority disagree on the skills an emotionally intelligent person must have, they all agree that these components make life easier and happier. Unfortunately, out of these approaches have come a multitude of affirmations of EI's positive influence, which have not been empirically contrasted. The most common allegations have been related with EI's effect and influence in our lives, or with the different areas EI could influence. Thus, the promotion of EI was supposed to improve relationships with our children (Shapiro, 1997; Gottman, 1997; Elias, Tobias and Friedlander, 1999), help to improve our work (Weisinger, 1997; Cooper and Sawaf, 1997), or have beneficial effects on the educational context (Steiner and Perry, 1997), among others. The only drawback was that none of these claims were supported by contrasted empirical data that would systematically and rigorously demonstrate, on the one hand, the explanatory level of EI and, second, its actual role in the various areas of our lives, in comparison with humankind's other dimensions (e.g, general intelligence, personality, sociodemographic characteristics, social networks, etc.)

It was not until the end of the last decade and the beginning of the current one, that the first steps were taken toward an empirical confirmation of the effect good EI can exert on people. The first works were generally aimed at examining the construct of EI, focused on the theoretical development of models and the creation or rigorous evaluation instruments (Mayer, Caruso and Salovey 2000; Salovey, Woolery, and Mayer, 2001). Today there is a sufficient theoretical basis, and there have been developed the necessary tools to conduct a reliable examination of the relationship of this concept with other pertinent variables, both in laboratory experiments and field studies. In fact, the line of current and valid research is centered on establishing the usefulness of this new construct in diverse areas of people's lives, with the aim of demonstrating how EI determines our behaviors, and in what areas of our lives it has the most significant influence.

Among the different approaches to EI, the theory developed by the creators of the concept, John Mayer and Peter Salovey (1990) remains—in our view—the most empirically defended and supported (Fernández-Berrocal and Extremera, 2002; Extremera and Fernández-Berrocal, 2003b). From this perspective, EI encompasses a range of skills related with the emotional processing of information. In particular, the most concise definition calls EI “the ability to perceive, assimilate,

comprehend and regulate one's emotions and that of others to promote emotional and intellectual growth"* (Mayer and Salovey, 1997, p.10).¹

Recently, literature has shown that lack of EI skills affects students inside and outside the school context. Although most studies have been carried out with samples of university students, there are appearing more and more empirical works conducted with adolescents (Ciarrochi, Chan and Bajgar, 2001; Fernández-Berrocal, Extremera and Ramos, 2003a; Liao, Liao, Teoh and Liao, 2003; Trinidad and Johnson, 2002). After reviewing this research, we found four key areas where a lack of EI provokes or exacerbates the emergence of problems among students. Briefly, the problems of the educational context associated with low levels of EI would be four:

1. Deficit in the levels of students' welfare and psychological adjustment;
2. Decrease in the quantity and quality of interpersonal relationships;
3. Drop in academic performance;
4. Emergence of disruptive behavior and substance abuse.

We summarize below the most significant findings which research in EI has discovered in each of these areas.

Emotional intelligence and its impact on levels of welfare and psychological adjustment

In recent years there has been a proliferation of empirical studies focusing on the role of EI in students' psychological wellbeing. Most of these works have followed the theoretical framework proposed by Mayer and Salovey (1997), who defined EI and its four components: perception, assimilation, understanding and regulation, which provide us a promising theoretical framework for understanding the basic emotional processes underlying the development of adequate psychological equilibrium, and help us to understand better the mediating role of certain emotional variables of students, and the influence of these variable on students' psychological adjustment and well-being. Since EI components include the abilities to perceive, understand and manage one's emotions adaptively, the purpose of these studies has been to examine whether students with a higher EI present higher levels of mental health, satisfaction and well-being than those with lower scores in these skills.

The evaluation of these EI components was performed using two types of instruments to which reference will be made when describing the different empirical studies: self-reports and measures of skill (Extremera and Fernandez-Berrocal, 2003a). Self-reports are questionnaires the students themselves answer, reflecting their perception of their own abilities. One of the most widely-used questionnaires

* Translator's note: As the original English versions of the works originally produced in that language, and cited in this work, were unavailable for use in this translation, it was necessary to employ the technique of back-translation, for which we offer our most humble apologies.

in research has been the *Trait Meta-Mood Scale* (TMMS) developed by Salovey, Mayer, Goldman, Turvey and Palfai (1995), and of which there is a reduced version adapted to the Spanish population, the *Trait Meta-Mood Scale-24* (TMMS-24),² (Fernandez-Berrocal, Extremera and Ramos, 2003a), which assesses levels of intrapersonal emotional intelligence by the use three factors: attention to feelings, emotional clarity, and moods. The most commonly used measurements of skill have been the Multifactor Emotional Intelligence Scale (MEIS), (Mayer, Caruso, and Salovey, 1999) and the more recent Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT) (Mayer, Salovey and Caruso, 2001).

Studies in the United States have shown that college students with more EI (evaluated with the TMMS) report fewer physical symptoms, less social anxiety and depression, improved self-esteem, greater interpersonal satisfaction, greater use of active coping strategies for solving their problems and less rumination. Moreover, when these students are exposed to stressful laboratory tasks, they perceive stressors as less threatening, and levels of cortisol and blood pressure are lower (Salovey, Stroud, Woolery and Epel, 2002). They even recover better emotionally from experimentally-induced negative moods (Salovey *et al.*, 1995). Other studies done in Australia have presented evidence that college students with high EI respond to stress with fewer suicidal tendencies, compared with those with low EI, and report less depression and hopelessness (Ciarrochi, Deane and Anderson, 2002). Similarly, Liao *et al.* (2003) have found that high school students who show lower levels of EI have higher scores on stress, depression and somatic complaints.

Studies carried out on a measurement of skill (MEIS) show similar results. College students with high levels of EI show greater empathy, a higher satisfaction with life and better quality in their social relations (Ciarrochi, Chan and Caputi, 2000).

In Spain, there has also been conducted research with adolescent students of compulsory secondary education (Fernández-Berrocal, Alcaide, and Ramos, 1999). The results have shown that when teenagers are divided into groups according to their levels of depressive symptomology, children with a normal state differed from those classified as depressed in having higher EI levels, specifically in *clarity* toward their feelings and higher levels of *emotional repair*. On the other hand, learners classified as depressed had lower levels in these aspects of EI, and higher scores in anxiety and frequency of repetitive and ruminative thoughts which they try to put out of their minds. Similarly, high EI scores were associated with higher scores on self-esteem, happiness, mental health and life satisfaction, and lower scores on anxiety, depression and suppression of negative thoughts (Fernández-Berrocal, Alcaide, Extremera and Pizarro, 2002; Extremera, 2003). The same type of relationships between EI and emotional adjustment in college students has been found in other Hispanic countries such as Chile (Fernández-Berrocal, Salovey, Vera, and Extremera Ramos, 2002).

Emotional intelligence and its influence on the quality of interpersonal relationships

Based on the EI models, there is also an emphasis on interpersonal skills. Emotionally intelligent people are not only more able to perceive, understand and manage their own emotions, but also will be better able to extrapolate to the emotions of others, their skills of perception, understanding and management. This theory provides a new framework for researching social and emotional adaptation, since EI would play an elemental role in the establishment, maintenance and quality of interpersonal relationships. Studies done in this line are based on the assumption that a student with high EI is a person skilled in the perception and understanding of others' emotions, and has better regulatory skills. In addition, interpersonal skills are a component of social life that helps people to interact and gain mutual benefits. That is, social skills tend to be reciprocal, so that the person who develops and possesses some appropriate social skills with others is more likely to get consideration and fair treatment from the other party, without forgetting that social support helps regulate the negative impact of everyday stressors.

Some Anglosaxon studies have found empirical evidence between EI and interpersonal relationships. For example, through self-reports there have been found positive relationships between high EI and the quality of social relationships (Schutte, Malouff, Bobik *et al.*, 2001). In the same vein, Mayer, Caruso and Salovey (1999), using a skill-measuring test (MEIS) found that college students with higher EI scores also had higher scores on empathy. Other studies have been done at earlier stages, for example, it has been found that elementary-school students who scored higher on a child's version of MEIS were evaluated by their peers as less aggressive, and their teachers considered them to be more inclined toward prosocial behavior than students with low scores in EI (Rubin, 1999).

In a U.S. study done by Lopes, Salovey, and Straus (2003), which used tests such as the MSCEIT,³ evidence has been found concerning the relationship between EI and quality of social relationships. Students who score high in EI were more satisfied in their relationships with friends and had more positive interactions; perceived greater parental support; and reported less conflict with their closest friends, even when monitored for personality traits and intelligence. The authors then extended these results by asking friends of those evaluated about their friendship relationships; they observed that those who scored higher on the EI dimension related with emotion management had a more positive interaction with friends. Furthermore, the friends stated that their friendship with these students were characterized by greater emotional support, a greater number of positive interactions and fewer negative interactions, even when monitored for personality traits as important as extraversion or neuroticism.

In other studies conducted in Australia with adolescents between 13 and 15 years of age, there were found very similar and interesting results. Ciarrochi, Chan and Bajgar, (2001) found that women had higher EI scores than men, and that

adolescents with high EI were more likely to establish and maintain interpersonal relationships, had more friends and more social support, felt more satisfaction with the relations established in the social network, had more ability to identify emotional expressions and had more adaptive behaviors with which to improve their negative emotions when they were monitored for the effects of other psychological variables such as self-esteem or anxiety.

In a sample of Spanish university students, Ramos, Fernández-Berrocal and Extremera (2003) found positive relationships between aspects of EI, and empathy and negative relationships with levels of emotional inhibition. In another study that used measurements from a self-report of EI (TMMS) and skills (MSCEIT), the data found were very similar to those obtained with Anglosaxon students. The ability to regulate their own emotions and those of others, as assessed by the MSCEIT, predicted levels of intimacy, affection and antagonism which college students had toward their best friends. On the other hand, TMMS factors were significant predictors of levels of empathy toward other students. In particular, high scores on *clarity* and *repair of emotions* were associated with greater taking of perspective and lower levels of personal distress, whereas high levels of emotional *attention* was associated not only with a higher level of empathic involvement, but also with greater personal distress concerning others' problems (Extremera and Fernandez-Berrocal, in press).

The role of emotional intelligence as a predictor of school performance

The line of research directed toward analyzing the influence of EI on academic performance has shown conflicting results. In fact, the first Anglosaxon studies conducted with a university population credited a direct relationship between EI and academic performance. In one study, evidence was found for a link between EI and performance through a longitudinal design for testing whether the scores on EI evaluated at the beginning of the academic course would predict the final grade scores. The data demonstrated that the EI scores significantly predicted students' average grade (Schutte, Malouff, Hall *et al.*, 1998). Subsequently, Newsome, Day and Catano's results (2000) did not endorse the positive relationships between EI measured with the (EQ-i) (a self-reporting EI inventory), and academic performance in Canadian students. Neither the total scores of the questionnaire nor its subscales were predictors of the grades at the end of the course. In the judgment of Parker, Summerfeldt, Hogan and Majeski (2004), the weak relationship found in the study of Newsome *et al.* (2000) between EI and academic performance could be explained by different problems related with the sample, since the students selected were going through various transition processes (e.g. freshmen, seniors, full-time students, part-time students, adolescents, adults). For this reason, Parker *et al.* evaluated only the adolescent learners who were in the process of transition from high school to college, and were going to study full-time. The students filled out a short version of the EQ-i (Bar-On, 2002), and at the end of the school year their grades were obtained. The findings were different, depending on how the variable *academic performance* was operationalized. When the relationship

between EI and *academic performance* was examined for the full sample, the correlation patterns were very similar to those of Newson and Catano (2000), which showed the poor predictive power of the total EI concerning academic performance. However, some of the subscales of the EQ-i (intrapersonal, stress management, adaptability) did significantly predict academic success (about 8% - 10% of the variance in scores). As the authors say, although these predictors were modest, it is interesting to note that these skills predicted academic grades for the first year of college with greater accuracy than did grades for the total high school experience taken as a reference.

More surprising still were the results obtained when comparing the groups that had achieved different levels of performance: students with high academic scores versus students with low academic scores. At the time of this division, academic performance appeared strongly related to several dimensions of EI, such as the subscales of intrapersonal skills, adaptability and stress management. By means of discriminant analysis, EI was used as a predictive variable for inclusion in the group of high and low academic performance. In general, EI was a powerful predictor for identifying freshmen who would have academic success at the end of the semester. Specifically, 82% of students with high academic performance and 91% of students with low academic performance were correctly identified and grouped according to their EI scores.

On the other hand, Barchard (2003) assessed college students with a test of EI ability (MSCEIT), but controlling cognitive skills that traditionally have been seen as related to performance (verbal ability, inductive reasoning, visualization), along with classical variables of personality (neuroticism, extroversion, openness, kindness and responsibility.) The results supported the idea that EI levels of the university students predicted college grades earned at the end of the school year. Therefore, the EI is added to cognitive skills as a potential predictor of psychological equilibrium not only for students but also for their scholastic achievement.

It is also possible that the relationship between EI and academic performance is not simply linear and direct, and may be influencing other characteristics or variables among the students. In fact, Fernández-Berrocal, Extremera and Ramos (2003b) examined the viability of the construct as an explanatory factor for school performance among students of compulsory secondary education (CSE), not as a direct relationship between EI and academic achievement, but by analyzing the mediating effect that good mental health has on the students' average school performance. The study was carried out in two institutes of Málaga (capital), Spain, with 3rd and 4th-year students who completed a series of emotional and cognitive measurements, to which their first-quarter grades were also added. The results again showed that high levels of EI (TMMS) predicted better psychological and emotional wellbeing in adolescents, i.e., they were less anxious and had less depressing symptomology, with less likelihood of having intrusive thoughts. We also found that those students classified as depressed did not have an academic performance as high as those classified as *normal* at the end of the quarter. In general, the results of this study, taken together, allowed a glimpse of certain non-

academic components that affect the student's scholastic performance. The study has placed in relief connections between school performance and EI; in particular, it showed that intrapersonal emotional intelligence influences the mental health of students, and that this psychological balance, in turn, is related to and affects the final academic performance. This finding is in line with U.S. research results which confirm that people with certain deficiencies (e.g., low skills, emotional maladjustment, learning problems) are more likely to experience stress and emotional difficulties during their studies, and consequently benefit more from the use of adaptive emotional skills which enable them to cope with such difficulties. In this sense, the results indicate that in the most vulnerable groups (adolescents with learning disabilities or low IQ) EI may act as a moderator of the effects of cognitive skills on academic performance (Petrides, Frederickson and Furnham, 2004).

The influence of emotional intelligence on the emergence of disruptive behaviors

An adequate evaluation of EI allows us to obtain very fresh and useful data concerning the functioning of the student's emotional resources, such as information about the degree of social adjustment, and of wellbeing in the individual, social, and family environment. In this way, studies show that low EI is a key factor in the emergence of disruptive behaviors with an underlying emotional deficit. Therefore, in connection with what has been examined so far, students with lower levels of EI can be expected to present higher levels of impulsivity and inferior interpersonal and social skills, a state of affairs that favors the development of various anti-social behaviors.

Some studies in the classroom have related violence and students' lack of prosocial conduct with measurements of EI skills (MEIS). These findings have confirmed positive and significant relationships between emotionally intelligent students, a more positive evaluation by their classmates, and fewer aggressive behaviors in the classroom. Moreover, according to the teacher, they develop more prosocial behaviors toward others than do the rest (Rubin, 1999).

Other studies recently done with British high-school students have confirmed that those learners with lower levels of EI evaluated by means of self-reports have a greater number of unjustified and unauthorized absences, and have a greater probability of being expelled from school for one or more days (Petrides, Frederickson and Furnham, 2004). Liao *et al.* (2003), on the other hand, inform us that high-school students with lower EI show higher levels of aggressive conducts and delinquent behaviors.

Preliminary data from the Spanish adolescent population (aged 14 to 19 years) also show the expected associations between high levels of EI (as assessed by TMMS) and fewer impulsive actions, a less aggressive temperament, and less justification for aggression in adolescents. Similarly, when students were divided according to their levels of aggression justification (high level of justification of

aggression versus low level of justification for aggression) we obtained a very specific emotional profile. Those students with a lower tendency to justify aggressive behavior reported a greater ability to distinguish their emotions (*high emotional clarity*), more ability to repair negative emotions and prolong the positive (*high satisfaction*), higher scores in mental health, lower levels of impulsivity and a lesser tendency to suppress negative thoughts (Extremera and Fernandez-Berrocal, 2002).

Then again, on the subject of substance abuse, research conducted with teenagers in the United States based on a measurement of EI ability (MEIS Teen) has obtained empirical data which confirm that high EI is associated with a lower consumption of tobacco and alcohol in adolescence (Trinidad and Johnson, 2002). Specifically, young people with higher levels of EI reported consuming less tobacco in the last 30 days and drinking less alcohol than those who scored low in EI. These results provide evidence that low EI is a risk factor for the consumption of tobacco and alcohol. According to Trinidad and Johnson (2002), emotionally-intelligent teenagers detect peer pressure better, and face the discrepancies better between their emotions and the group's motivations; this leads to an increase in group resistance and a reduction in alcohol and tobacco consumption (Trinidad and Johnson, 2002). This same research group has evaluated the protective nature of EI on the risk of smoking (Trinidad, Unger, and Johnson Chou, in press). The results indicated that the levels of EI were indeed a protective factor that decreases the risk of smoking in adolescents. More specifically, the analysis revealed that high EI is associated with a greater perception of negative social consequences associated with smoking, along with a greater ability to reject more effectively the offer of cigarettes by others. At the same time, the findings showed that a high EI was associated with a lower probability of intending to smoke next year. These data which provide evidence that those individuals with high EI can benefit more from group prevention programs and from those programs directed toward the prevention of tobacco consumption in adolescents would increase their effectiveness if they took into account variables such as EI. Recently, this group has also found that the levels of EI in adolescents can interact with the past experience of smoking and psychosocial risk factors related to smoking behavior, and can influence the intention to do so in the future. Those students with high EI are more likely to smoke the following year if they have tried previously. In contrast, adolescents with low EI are more likely to smoke in the future if their hostility scores are high, or if they have a low perceived ability to refuse the offer of cigarettes from friends (Trinidad, Unger, Chou, Azen and Johnson, 2004).

Other studies have found more specific patterns. Brackett, Mayer and Warner (in press) found by means of a measurement of ability (MSCEIT), that women scored higher than men; surprisingly, EI was more predictive of everyday-life behaviors for men than for women. Low EI scores in men, mainly in the factors of perception and assimilation was associated with more negative results in the consumption of alcohol and illegal drugs, a greater number of physical fights, addictive behaviors, and negative relationships with friends. Moreover, the results remained significant when subjects' scores for personality and academic performance were statistically

monitored. That is, in this study, high levels of EI were associated with a higher rate of negative behaviors and social maladjustment in men, but the same effects were not found in women. The authors argue that it is possible there is a *threshold effect* where a minimum level of EI would be necessary for correcting social activities, and that the proportion of men who are below that threshold is greater than the proportion of women. According to the authors, it is also possible that beginning from that point, an increase in EI does not correlate with positive behaviors, and women exceed it in greater measure than men (Brackett *et al.*, in press). In conclusion, the studies reviewed show interesting relationships between students' levels of EI and their consumption of addictive substances. It is possible that those adolescents with a greater repertory of affective competencies based on understanding, as well as the management and control of their own emotions, do not need to use other external regulators (e.g., tobacco, alcohol and illegal drugs) to repair negative moods caused by the variety of life events and stressful happenings to which they are exposed at these ages.

Conclusions

In this article we have examined the potential effects which EI skills can have on students. Since the emergence of the best-seller by Goleman (1995), the scientific community, and in particular, educational research need empirical data showing that the skills and competencies in EI have real and positive impact on students' personal and scholastic life. In this article we have collected evidence showing that emotionally-intelligent students, as a rule, have higher levels of psychological adjustment and emotional wellbeing, present a higher quality and greater quantity of interpersonal networks and social support, are less likely to engage in disruptive, aggressive or violent behavior; they can obtain higher scholastic achievement faced with stressful situations more easily, and consume a lesser quantity of addictive substances (e.g., tobacco, alcohol, etc.).

Research on this topic has stressed that the concept of EI has acquired a scientific foundation and is starting to mature as a framework of study. The coming years will surely bring into the field of education interesting findings that will further highlight the potential role of EI in the classroom, and the need to integrate into the curriculum the development of EI skills (Mayer and Cobb, 2000). Certainly, in light of the evidence found so far, its promotion in the classroom will be a key to improving psychopedagogical intervention strategies.

Certainly these results are encouraging, and support the importance of developing emotional skills in the classroom, a task still pending in most schools. If we wish to build a complete individual, prepared for the society of the future, we must educate our students and children in the affective and emotional world. Furthermore, our opinion is that rather than examine and promote EI individually, we must adopt a complementary perspective, including it within a broader framework along with other personal and social aspects which up to now have been seen as related to success in the educational context (cognitive and practical skills, family support,

motivation, expectations, etc.) While the main concern today means that education has been overly focused on the development of cognitive skills and knowledge, we cannot now adopt a reductionist approach focused exclusively on emotional development and forgetful of other relevant aspects. EI is a dimension that should be taken into account more within the broad range of variables that affect or modulate a person's success. In other words, if psychology is aimed at understanding fundamental human behavior, EI is a new element to consider—one more piece of the puzzle that allows us to explain the individual's life results not predicted so far by existing variables. In light of these results, the development of EI seems a necessary task, and the school environment becomes the ideal place to foster these skills which will contribute positively to the student's personal and social welfare.

References

- Bar-On, R. (1997). *The emotional quotient inventory (EQ-i): A test of emotional intelligence*. Toronto: Multi-Health Systems.
- Bar-On, R. (2002). *BarOn emotional quotient short form (EQ-i:Short): Technical manual*. Toronto: Multi-Health Systems.
- Brackett, M. A., Mayer, J. D., & Warner, R. M. (in press). Emotional intelligence and its relation to everyday behavior. *Personality and Individual Differences*.
- Ciarrochi, J. V., Chan, A. C., & Caputi, P. (2000). A critical evaluation of the emotional intelligence construct. *Personality and Individual Differences*, 28 (3), 539-561.
- Ciarrochi, J., Chan, A., & Bajgar, J. (2001). Measuring emotional intelligence in adolescents. *Personality and Individual Differences*, 31 (7), 1105-1119.
- Ciarrochi, J., Deane, F., & Anderson, S. (2002). Emotional intelligence moderates the relationship between stress and mental health. *Personality and Individual Differences*, 32 (2), 197-209.
- Cooper, R. K. & Sawaf, A. (1997). *Executive EQ: Emotional intelligence in leadership and organization*. New York: Grosset Putnam.
- Elias, M. J., Tobias, S. E., & Friedlander, B. S. (1999). *Emotionally intelligent parenting: How to raise a self disciplined, responsible, and socially skilled child*. New York: Harmony-Random House.
- Epstein, S. (1998). *Constructive thinking: The key to emotional intelligence*. Westport: Praeger.

Extremera, N. (2003). *El modelo de inteligencia emocional de Mayer y Salovey y su validez predictiva en muestras españolas*. Unpublished doctoral dissertation. Universidad de Málaga, Spain.

Extremera, N. & Fernández-Berrocal, P. (in press). La influencia de la inteligencia emocional en la calidad de las relaciones interpersonales y la empatía de los estudiantes universitarios malagueños. In M. Cebrián de la Serna (Ed.), *Desarrollo profesional y docencia universitaria. Proyecto de innovación en la Universidad*. Innovación Educativa, Universidad de Málaga.

Extremera, N. & Fernández-Berrocal, P. (2002). La evaluación de la inteligencia emocional en el aula como factor protector de diversas conductas problema: violencia, impulsividad y desajuste emocional. In F. A. Muñoz, B. Molina & F. Jiménez (Eds.), *Actas del I Congreso Hispanoamericano de Educación y Cultura de Paz* (pp. 599-605). Granada: Universidad de Granada.

Extremera, N. & Fernández-Berrocal, P. (2003a). La inteligencia emocional: Métodos de evaluación en el aula. *Revista Iberoamericana de Educación*, 30, 1-12.

Extremera, N. & Fernández-Berrocal, P. (2003b). La inteligencia emocional en el contexto educativo: hallazgos científicos de sus efectos en el aula. *Revista de Educación*, 332, 97-116.

Fernández-Berrocal, P., Alcaide, R., & Ramos, N. (1999). The influence of emotional intelligence on the emotional adjustment in highschool students. *Bulletin of Kharkov State University*, 439 (1-2), 119-123.

Fernández-Berrocal, P., Alcaide, R., Extremera, N., & Pizarro, D. (2002). *The role of perceived emotional intelligence in the psychological adjustment of adolescents*. Manuscript submitted for publication.

Fernández-Berrocal, P. & Extremera, N. (2002). La inteligencia emocional como una habilidad esencial en la escuela. *Revista Iberoamericana de Educación*, 29, 1-6.

Fernández-Berrocal, P., Extremera, N. & Ramos, N. (2003a). Inteligencia emocional y depresión. *Encuentros en Psicología Social*, 1 (5), 251-254.

Fernández-Berrocal, P., Extremera, N., & Ramos, N. (2003b). *Perceived emotional intelligence, psychological adjustment and academic performance*. Manuscript submitted for publication.

Fernández-Berrocal, P., Salovey, P., Vera, A., Ramos, N., & Extremera, N. (2002). Cultura, inteligencia emocional percibida y ajuste emocional: un estudio preliminar. *Revista Española de Motivación y Emoción*, 3, 159-167.

Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.

Goleman, D. (1998). *Working with emotional intelligence*. New York: Bantam Books.

Gottman, J. (1997). *The heart of parenting: How to raise an emotionally intelligent child*. New York: Simon & Schuster.

Liau, A. K., Liao, A. W. L., Teoh, G. B. S., & Liao, M. T. L. (2003). The Case for Emotional Literacy: the influence of emotional intelligence on problem behaviours in Malaysian secondary school students. *Journal of Moral Education*, 32 (1), 51-66.

Lopes, P. N., Salovey, P., & Straus, R. (2003). Emotional intelligence, personality and the perceived quality of social relationships. *Personality and Individual Differences*, 35 (3), 641-658.

Mayer, J. D., Caruso, D., & Salovey, P. (1999). Emotional intelligence meets traditional standards for an intelligence. *Intelligence*, 27, 267-298.

Mayer, J. D., Caruso, D., & Salovey, P. (2000). Selecting a measure of emotional intelligence: the case for ability scales. In R. Bar-On & J. D. A. Parker (Eds.), *The handbook of emotional intelligence: Theory, development, assessment, and application at home, school, and in the workplace* (pp. 320-342). San Francisco: Jossey-Bass.

Mayer, J. D., & Cobb, C. D. (2000). Educational policy on emotional intelligence: Does it make sense? *Educational Psychology Review*, 12 (2), 163-183.

Mayer, J. D. & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds), *Emotional Development and Emotional Intelligence: Implications for Educators* (pp. 3-31). New York: Basic Books.

Newsome, S., Day, A. L., & Catano, V. M. (2000). Assessing the predictive validity of emotional intelligence. *Personality and Individual Differences*, 29 (6), 1005-1016.

Mayer, J. D., Salovey, P., & Caruso, D. (2001). *Technical manual for the MSCEIT v.2.0*. Toronto: MHS Publishers.

Parker, J. D. A., Summerfeldt, L. J., Hogan, M. J., & Majeski, S. A. (2004). Emotional intelligence and academia success: examining the transition from high school to university. *Personality and Individual Differences*, 36 (1), 163-172.

Petrides, K. V., Frederickson, N., & Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36 (2), 277-293.

Ramos, N. S., Fernández-Berrocal, P., & Extremera, N. (2003). *Perceived emotional intelligence facilitates cognitive-emotional processes of adaptation to an acute stressor*. Manuscript submitted for publication.

Rubin, M. M. (1999). *Emotional intelligence and its role in mitigating aggression: A correlational study of the relationship between emotional intelligence and aggression in urban adolescents*. Unpublished doctoral dissertation. Immaculata College, Immaculata, PA, Estados Unidos.

Salovey, P. & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality*, 9 (3), 185-211.

Salovey, P., Mayer, J. D., Goldman, S., Turvey, C., & Palfai, T. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. In J. W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 125-154). Washington, DC: American Psychological Association.

Salovey, P., Stroud, L. R., Woolery, A., & Epel, E. S. (2002). Perceived emotional intelligence, stress reactivity, and symptom reports: Further explorations using the Trait Meta-Mood Scale. *Psychology and Health*, 17, 611-627.

Salovey, P., Woolery, A., & Mayer, J. D. (2001) Emotional intelligence: Conceptualization and measurement. In G.J.O. Fletcher & M. S. Clark (Eds.). *Blackwell handbook of social psychology: Interpersonal processes* (pp. 279-307). Malden, MA: Blackwell Publishers.

Schutte, N. S., Malouff, J., Bobik, C., Coston, T., Greeson, C., Jedlicka, C. *et al.* (2001). Emotional intelligence and interpersonal relations. *Journal of Social Psychology*, 141 (4), 523-536.

Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J. *et al.* (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25 (2), 167-177.

Shapiro, L. E. (1997). *How to raise a child with a higher EQ*. New York: Harper Collins.

Steiner, C. & Perry, P. (1997). *Achieving emotional literacy: A program to increase your emotional intelligence*. New York: Avon.

Trinidad, D. R. & Johnson, C. A. (2002). The association between emotional intelligence and early adolescent tobacco and alcohol use. *Personality and Individual Differences*, 32 (1), 95-105.

Trinidad, D. R., Unger, J. B., Chou, C.P., Azen, S. P., & Johnson, C. A. (2004). Emotional intelligence and smoking risk factors in adolescents: Interactions on smoking intentions. *Journal of Adolescent Health*, 34 (1), 46-55.

Trinidad, D. R., Unger, J. B., Chou, C.P., & Johnson, C. A. (en prensa). The protective association of emotional intelligence with psychosocial smoking risk factors for adolescents. *Personality and Individual Differences*.

Weisinger, H. (1997). *Emotional intelligence at work*. New York: Jossey-Bass.

Translator: Lessie Evona York-Weatherman

UABC Mexicali

¹ This study was made, in part, thanks to the Assistance BSO2003-02573 of the Spanish Ministry of Education and Science.

² To obtain TMMS-24 in Castilian and to solicit bibliography for its use in different studies, please contact the authors of this article (berrocal@uma.es; nextremera@uma.es).

³ Mayer-Salovey-Caruso Emotional Intelligence Test