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Emotional Intelligence vs. General Intelligence: Aspects to Consider in Teaching

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Abstract: The main objective of this study was to analyze the way in which emotional competencies (EI) in students are linked to general intelligence (IQ), and how the crossing of the two measurements determines their academic performance. To conduct this research, two tests were applied. First, the TEIQue (Trait Emotional Intelligence Questionnaire) assessment was administered and, secondly, the R scale of the PMA Test (Primary Mental Abilities). The sample consisted of 58 university students between 18 and 51 years old, of which 76% are women and 24% are men. The results show that there is no direct relationship between emotional intelligence and general intelligence. However, it is important to consider the size of the sample, since it presents limitations when interpreting the results. Nonetheless, an interesting finding is the interaction discovered between a performance indicator, such as the selectivity score, and the overall EI score. These results are in line with those found by Schutte et al. (1998). This result is even more significant, if possible, when realizing the selectivity score showed a negative correlation (inverse relationship) with the score on the PMA- R (Reasoning) test.

Keywords: Emotional intelligence, general intelligence, teaching methodologies

Introduction

The Emotional Intelligence (EI) construct has its origins in studies conducted by Edward Thorndike (1920) regarding social intelligence, defined as the capacity to comprehend and guide people and manage their relationships. Afterward, Gardner (1983) further elaborated on the concepts of interpersonal and intrapersonal intelligence, pointing out that the former (interpersonal intelligence) denotes the ability to understand other people's intentions, motivations, and desires in order to work effectively with them; and the later (intrapersonal intelligence) reflects the capacity to understand oneself in an effective manner.

It was not until Salovey and Mayer (1990) that the first relevant research regarding this concept appeared. These authors focused on the affective, emotional, personal, and social components (without underestimating the cognitive ones), which involved a key success factor in different spheres of life (Bar-On & Parker, 2000, 2006; Shapiro, 1997).

However, it was Goleman (1995) who actually popularized EI by identifying the attributes needed to succeed in life and be happy. He also explained how EI is not a fixed factor without modifiability, but a construct capable to be developed and improved throughout life.

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There have been multiple studies that have linked EI with different aspects of life, including the educational context (Fernández-Berrocal & Ruiz Aranda, 2008). Specifically, Extremera and Fernández-Berrocal (2004) noted that the deficits in the skills associated with EI affect students inside and outside the school context, mainly in four aspects:

- Wellness levels
- Interpersonal relationships
- Academic performance
- Disruptive behavior

Emotional Intelligence and Academic Performance

Research conducted to analyze the link between EI and academic performance have found conflicting results. On the one hand, a direct relationship has been found between EI and academic performance, in which student scores in EI predicted academic outcomes (Schutte et al., 1998). And, on the other hand, different studies did not find this correlation when examining the relationship between EI and academic performance overall (Newsome, Day, & Catano, 2000). Furthermore, research conducted by Parker, Summerfeldt, Hogan, and Majeski (2004) found no link between EI and academic performance by analyzing overall EI. However, they did find a relationship between the two when some scales were analyzed independently (intrapersonal, stress management, and adaptability).

One explanation for these conflicting results is based on a view that the relationship between EI and academic performance is not linear, but rather other variables might be influencing factors (Fernández-Berrocal, Extremera, & Ramos-Diaz, 2003). In this regard, some of the results showed that in students with a low intelligence quotient (IQ), the EI could be acting as a regulator in order to overcome the IQ deficit and offset its effects, achieving greater academic performance (Petrides, Frederickson, & Furnham, 2004).

The main objective of the research presented here is to analyze the way in which emotional competencies (EI) in students are linked to general intelligence (IQ), and how the crossing of the two measurements determines their academic performance. Moreover, the interaction of other modulating variables is analyzed according to how they relate to EI and IQ (age, gender, international experiences, domestic partnership, and the score obtained in selectivity).

Method

Participants

The sample consists of 58 university students between 18 and 51 years old, of which 76% are women and 24% are men. All participants are college Education major students at the Universidad Europea de Madrid. Thirty-one percent of the sample reported having lived some time in other countries (mostly European countries), mainly for academic or educational reasons.

Regarding the cohabitation variable, 48% of respondents said yes. It was considered important to know the previous selectivity score of the study participants; although, only 47% recalled this information. In this case, the average score among respondents was 6.53 (on a 10-point scale).

Instruments

To develop this research, two tests were applied. First, the TEIQue (Trait Emotional Intelligence Questionnaire) assessment was administered and, secondly, the R scale of the PMA Test (Primary Mental Abilities).

IE evaluation. For its analysis, research in the educational field employs three procedures for assessing EI (Extremera & Fernández-Berrocal, 2003; Fernández-Berrocal & Extremera, 2004):

- Classic Instruments based on questionnaires and self-reports completed by the student;
- Measurements by outside observers based on questionnaires completed by fellow student or the professor; and
- EI competence assessments.

For this investigation, the first procedure was selected, particularly using the TEIQue (Trait Emotional Intelligence Questionnaire) assessment. This questionnaire consists of 153 questions that identify a total of 15 subscales, grouped into four factors: wellness, self-management skills, social skills, and emotional skills (Pérez, Petrides, & Furnham, 2005).

The score for this test is obtained through a Likert scale of 1 to 7 points, n which 1 equates “strongly disagree” and 7 “strongly agree”.

The factors measured by the instrument are as follows:

a) EI overall factor. The overall EI score provides a general emotional impression. That is, a vision of a person’s ability to understand, process, and use information about his/her own emotions and those of others.

b) Wellness factor. This factor describes the overall wellness. It consists of three aspects:

- Happiness: to which extent the person feels good and happy at a given moment;
- Optimism: to what degree the person feels positive about the future; and
- Self-esteem: self-esteem levels and to what extent the person is self-confident.

c) Self-control factor. This factor describes how a person regulates external pressures, stress, and urges. It consists of:

- Emotional management: the ability to regulate emotions, stay focused, and remain calmed in exasperating situations;
- Impulsiveness control: thinking before acting, yielding to urges, or taking hasty decisions; and
- Stress management: how to manage pressure and stress.

d) Emotionality factor. This factor describes the ability to perceive and express emotions, and how to use them to develop and maintain relationships with others. It consists of:

- Empathy: the ability to understand the views of others and to take into account their feelings;
- Emotional awareness: the capacity to understand one’s emotions and those of others;
- Emotional expressiveness: the ability to express one’s emotions; and
- Relationships: the capacity to create and maintain fulfilling relationships both inside and outside the work sphere.

e) Sociability factor. This factor describes the ability to socialize, manage, and communicate with others. It consists of:

- Emotions management: the ability to manage emotional states of others;
- Assertiveness: how communicative is the person and the degree to which he/she defends his/her own rights; and
- Social awareness: the ability to feel comfortable in social contexts and how one behaves in the presence of people not well known.

Intelligence evaluation: reasoning. In order to evaluate the reasoning intelligence factor, the PMA Test has been used in its R scale. The PMA Test consists of five intelligence assessment factors: verbal comprehension, verbal fluency, facility with numbers, reasoning, and spatial visualization (Thurstone, 1947). The factor used in this research is the reasoning factor, which involves the inductive capacity (the ability to infer from the particular to the general) and deductive capacity (the ability to attain from premises a logical conclusion). This scale consists of 30 items related to a logical sequence of letters, which participants must complete within a 6-minute timeframe.

Procedure

Initially, all participants were informed of the purpose of the investigation and were invited to participate voluntarily. After obtaining consent, the researchers proceeded to explaining the process.

1. First, participants answered a series of socio-demographic questions.
2. Then, the R scale of the PMA Test (Primary Mental Abilities) was administered in order to assess the reasoning factor (6 minutes).
3. Subsequently, the TEIQue (Trait Emotional Intelligence Questionnaire) assessment was administered to evaluate the emotional intelligence factor (no allotted time).

Results

Descriptive Analysis

The mean scores obtained from the different EI factors are described in Figure 1.

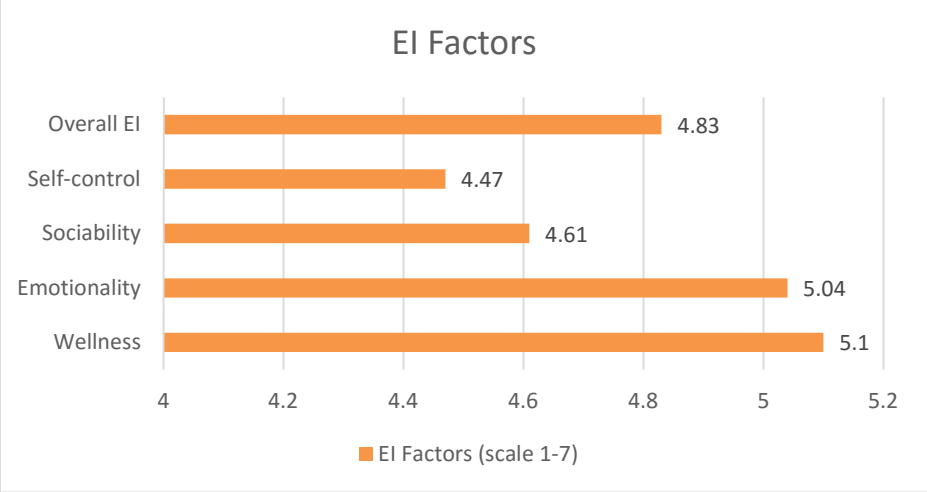

Figure 1. Mean score of the different EI factors.

The main selectivity score obtained was 6.40 (on a scale from 0-10), and the PMA-R mean score was 15.40 (on a scale from 0-30).

Interaction with the Sex Variable

No significant differences were found for the EI different factors or in the overall EI score between men and women. However, significant differences were observed between men and women in the PMA-R Test (Reasoning), being higher in women (Mann-Whitney U test = 418; p <0.044) (see Table 1)

Table 1. *Descriptive Scores for the Reasoning Variable (PMA-R) According to Sex*

	Sex	N	Mean	SD
Overall PMA-R	Men	14	13.79	2.694
	Women	44	15.91	3.523

Interaction with International Experience

There were significant differences between students who have had international experiences and those who have not, both in the sociability EI factor (Mann-Whitney U = 495; p <0.023) and in the overall EI score (Mann -Whitney U = 481; p <0.041) (see Table 2). In all other factors no significant differences between both groups were found.

Table 2. *Descriptive Scores of the Sociability Factor and Overall EI According to International Experiences*

	International experience	N	Mean	SD
Sociability factor	No	40	4.4667	0.66848
	Yes	18	4.9294	0.67737
Overall EI score	No	40	4.7515	0.56667
	Yes	18	5.0072	0.34540

Interaction with IE

A first analysis shows how the factors included in EI have significant correlations with each other, being the highest the one established between the wellness and emotionality factors (Correlation=0.626; p <0.000) (Table 3).

Table 3. *Correlation Among the Different EI Factors**

Factors		Correlation	Significance
Wellness factor	Emotionality factor	0.626	0.000
Wellness factor	Sociability factor	0.507	0.000
Wellness factor	Self-control factor	0.313	0.017
Emotionality factor	Sociability factor	0.442	0.001
Emotionality factor	Self-control factor	0.395	0.002
Sociability factor	Self-control factor	0.285	0.030

* Significance level p<0.05

Interaction with PMA-R

No significant correlations were found between the reasoning factor (PMA-R) and the EI factors (wellness, emotionality, sociability, self-control), or their overall score. It should be noted

that, although it does not show a significant correlation, the selectivity score correlates negatively with the PMA-R factor (correlation = -0.256; p <0.197).

Interaction with the Selectivity Rating

In this regard, it is noteworthy that the selectivity score did not significantly correlated to any of the EI factors. However, a significant correlation between the selectivity score and the overall EI score was found (correlation = 0.391, P <0.044).

Conclusions

The results show that there is no direct relationship between emotional intelligence and general intelligence. However, it is important to consider the size of the sample, since it presents great limitations when interpreting the results. In future research, it is necessary to expand the sample size and include students from different areas of study.

An important finding is the interaction found between a performance indicator, such as the selectivity score, and the overall EI score. These results are in line with those found by Schutte et al. (1998). This result is even more significant, if possible, when realizing the selectivity score showed a negative correlation (inverse relationship) with the score on the PMA- R (Reasoning) test. That is, the results seem to suggest that EI is a better predictor of academic performance than the reasoning factor itself.

Regarding the variables influencing EI factors, having or not international experiences stands out. In this sense, having made trips abroad (regardless of the reason) seems to have a positive impact on having a higher EI score (in general) and the sociability factor.

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