

Original article

Development and validation of the Strategic Test of Emotional Intelligence (STEI) in the Spanish population

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ARTICLE INFO

Article history:

Received 25 April 2019

Accepted 10 September 2019

Keywords:

Emotional intelligence
Assessment
Situational judgment test
Ability model

ABSTRACT

Introduction and objectives: Currently, the assessment of emotional intelligence (EI) ability using performance measures is somewhat limited. Our study thus describes the development and validation of a new performance measure, known as the Strategic Test of Emotional Intelligence (STEI), to assess EI abilities in Spanish samples based on the Mayer and Salovey (1997) model and Situational Judgment Test paradigm.

Materials and method: Spanish undergraduate students and community participants ($N = 504$; 64.7% females aged 18–67 years) completed the STEI (consisting of 110 items, 55 of which correspond to the understanding emotions factor and 55 to the managing emotions factor). Different subgroups also completed measures of EI, empathy, personality, and general intelligence.

Results: The findings indicate appropriate reliability and convergent and discriminant validity with respect to EI, empathy, personality, and intelligence measures. Further, confirmatory factor analysis supported the existence of a two-factor structure composed of the understanding and managing emotions subscales. Cronbach's alpha coefficients were adequate (.82 understanding emotions, .85 managing emotions, and .90 total STEI).

Conclusions: The STEI could be a promising new measure for assessing EI in Spanish samples, providing a novel tool for researching the construct and enabling the comparison with previous results found in other cultures.

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Desarrollo y validación del Test Estratégico de Inteligencia Emocional (STEI) en población española

RESUMEN

Introducción y objetivos: En la actualidad, la evaluación de la capacidad de inteligencia emocional (IE) que utiliza medidas de rendimiento es algo limitada. Nuestro estudio describe el desarrollo y la validación de una nueva medida de rendimiento, conocida como Test Estratégico de Inteligencia Emocional (STEI), para evaluar las habilidades de IE en muestras españolas basada en el modelo de Mayer y Salovey (1997) y en el paradigma de Prueba de Juicio Situacional.

Materiales y método: Estudiantes universitarios, así como muestra de población general ($n = 504$; 64.7% mujeres; rango de edad de 18 a 67 años) de España completaron el STEI (con un total de 110 ítems, 55 pertenecientes al factor comprensión y 55 al factor manejo de las emociones). Diferentes subgrupos también completaron medidas de IE, empatía, personalidad e inteligencia general.

Resultados: Los resultados indican una fiabilidad apropiada y una validez convergente y discriminante con respecto a las medidas de IE, empatía, personalidad e inteligencia. Además, el análisis factorial confirmatorio apoyó la existencia de una estructura de dos factores compuesta por las subescalas de

Palabras clave:

Inteligencia emocional
Evaluación
Prueba de juicio situacional
Modelo de habilidad

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comprensión y manejo de las emociones. Los coeficientes alfa de Cronbach fueron adecuados (.82 comprensión emociones, .85 manejo emociones y .90 STEI total).

Conclusiones: El STEI podría ser una medida nueva y prometedora para evaluar la IE en muestras españolas, proporcionando una herramienta novedosa para investigar el constructo y poder comparar los resultados con los encontrados previamente en otras culturas.

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Introduction

Recent years have seen an exponential growth in research on emotional intelligence (EI) and approaches to its assessment (Miners, Côté, & Lievens, 2018). Numerous theories, models, and EI measures have been developed, and there is substantial evidence to suggest that EI is a significant predictor of important life outcomes in the areas of health, education, relationships, and the workplace (Barchard, Brackett, & Mestre, 2016).

There are currently two main co-existing theoretical approaches to the EI construct (for a review see Mayer, Salovey, & Caruso, 2000). The Trait Model (e.g., Petrides & Furnham, 2003) conceptualizes EI as a constellation of emotion-related characteristics that must be assessed using self-report questionnaires. In contrast, the Ability Model (Mayer & Salovey, 1997) conceptualizes EI as the ability to process emotional information, which comprises the following four hierarchically inter-correlated branches: perceiving, using, understanding, and managing emotions, all of which must be assessed using performance tests. Perceiving and using emotions constitute the Experiential EI Area (ability to perceive, respond, and manipulate emotional information without necessarily understanding it), whilst the understanding and managing of emotions constitute the Strategic EI Area. To manage emotions adequately, one must be able to discriminate and label them accurately, as well as select and deploy strategies to alter them. These two latter EI branches are strategic in the sense that they provide the basis for charting an emotional course for oneself and others according to personal and social needs. Strategic EI may be more important than Experiential EI because it is more predictive of emotional well-being, social integration, and academic performance (e.g., Brackett, Palomera, Mojsa-Kaja, Reyes, & Salovey, 2010; Lopes et al., 2011; Megías-Robles et al., 2019).

The choice of which theoretical model of EI to use has a profound impact on the subsequent assessment approach used to evaluate the construct. The self-report measures of the Trait Model capture typical performance, while tests of the Ability Model capture maximal potential performance. Self-report instruments are subject to various biases, such as social desirability and response style (Gannon & Ranzijn, 2005). In this regard, self-report scales allow for an evaluation of how people perceive their own emotional abilities. On the other hand, Ability tests of EI are less vulnerable to the biases of self-report, and they allow for the assessment of actual EI performance, i.e., actual ability to use emotional skills to solve emotional problems.

Certain ability tests of EI focus on specific EI components such as the ability to use emotional knowledge to understand and analyze emotions (Blickle, Momm, Liu, Witzki, & Steinmayr, 2011). MacCann and Roberts (2008) developed separately the Situational Test of Emotion Management (STEM) and the Situational Test of Emotional Understanding (STEU). In the last decade, the development of Situational Judgment Tests (SJTs) as measures of people's procedural knowledge in specific domains such as the interpersonal area has proliferated in several fields (Weng, Yang, Lievens, & McDaniel, 2018). However, SJTs have difficulties

with cross-cultural validity (Lievens et al., 2015) and neither of these two instruments has been adapted to the Spanish culture. Only one measure exists to assess EI performance in the Spanish culture: the Mayer–Salovey–Caruso Emotional Intelligence Test (MSCEIT; Mayer, Salovey, & Caruso, 2002). Findings with the Spanish MSCEIT have provided an adequate factor structure of the Ability model show good psychometric properties, as well as low correlations with personality and moderate correlations with intelligence (Extremera & Fernández-Berrocal, 2009; Sánchez-García, Extremera, & Fernández-Berrocal, 2016). Higher levels of EI assessed by MSCEIT are associated with important psychological and behavioral outcomes in clinical, social, workplace, and educational settings (for a review, see Caruso, Salovey, Brackett, & Mayer, 2015). Regarding gender differences, a meta-analysis has revealed small but significant differences in EI scores in favor of women (Joseph & Newman, 2010), whilst studies of age differences have yielded mixed findings, from no correlation with EI to weak positive (or negative) associations (Fernández-Berrocal, Cabello, Castillo, & Extremera, 2012).

Comprehensive ability-based measures of EI are needed as an alternative—or complementary—approach to the MSCEIT, in order to provide a broader understanding of the EI construct. Such measures should also be developed and validated in non-English-speaking cultures in order to verify and extend the insights that have been gained in English-speaking countries (Davis & Humphrey, 2012).

The objective of our study is to describe the development and validation of the Strategic Test of Emotional Intelligence (STEI), a new instrument for assessing the two interrelated branches that compose the Strategic EI Area in the Ability Model (understanding and managing emotions) in the Spanish context. Based on recent advances in EI measurement (MacCann & Roberts, 2008), the STEI uses the SJT method, in which participants are presented with real-life related situations to which they have to respond by choosing between different options or rate-extent answers (McDaniel & Nguyen, 2001). SJTs have shown good criterion-related validity and incremental validity for cognitive ability and personality (for a review, see Lievens, Peeters, & Schollaert, 2007). In this case, following the studies of MacCann and Roberts (2008), the instrument is based on emotional tasks performed around the same emotion-eliciting situation, which may be a more accurate model for assessing the cognitive processing of emotions under natural conditions. Participants read short scenarios in which different characters experience different emotions in intrapersonal or interpersonal situations, after which they are required to complete a number of tasks related to Strategic EI.

This paper analyzes the internal structure and reliability of the STEI and examines its convergent and discriminant validity. Firstly, we examine the factor structure of the STEI according to the theoretical model of Strategic EI that is composed of two specific factors (understanding and regulating emotions) and a global factor (the Strategic EI). Secondly, adequate reliability and retest scores are analyzed. Thirdly, we examine the convergent and discriminant validity of STEI according to other EI measures, other types of

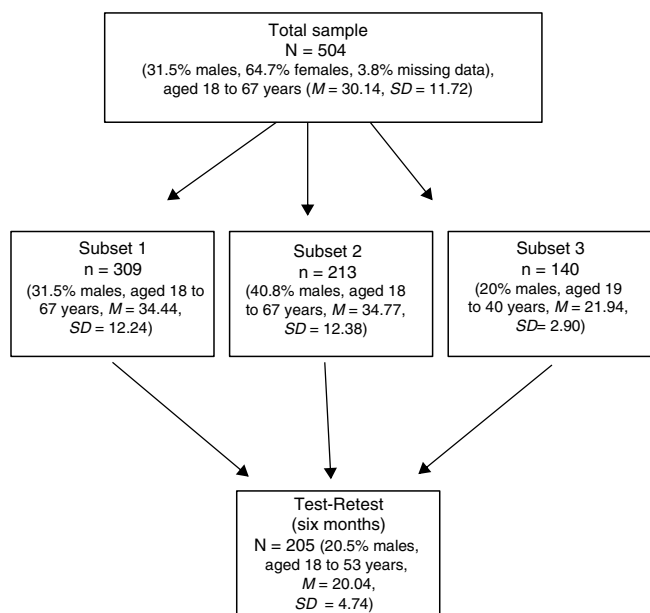


Fig. 1. Flowchart of the sample.

intelligences, empathy, and personality traits. In this regard, we first expect to find that the results on the STEI should correlate more strongly with results on other EI tests than with results on tests of other types of intelligence. Second, results on the STEI should correlate positively with results on tests of other types of intelligence. Third, results on the STEI should relate to variables or outcomes that are reasonably indicative of emotional competence, such as empathy. Finally, results on the STEI should correlate with personality to a similar extent as results on tests of other types of intelligence, since EI lies within the domain of intelligence rather than personality (Ackerman & Heggestad, 1997).

Method

Participants and procedure

An incidental sample of 504 Spanish undergraduate students and community participants from various cultural Spanish regions and socio-economical contexts (31.5% males, 64.7% females, 3.8% with missing gender data), ranging in age from 18 to 67 years (Mean = 30.14, SD = 11.72) completed the STEI (see Fig. 1). A subset of 309 participants (38.8% males, 61.2% females), ranging in age from 18 to 67 years (Mean = 34.44, SD = 12.24), completed an additional test to evaluate personality traits, and 213 (40.8% males, 59.2% females), ranging in age from 18 to 67 years (Mean = 34.77, SD = 12.38), completed an additional test to assess empathy. Lastly, 140 participants, all of whom were undergraduate students (20% males, 80% females) and who ranged in age from 19 to 40 years (Mean = 21.94, SD = 2.90), completed the MSCEIT. Finally, 205 participants from the initial sample (20.5% males, 79% females) ranging in age from 18 to 53 years (Mean = 20.04, SD = 4.74) completed the STEI retest, which was administered (under the same conditions) six months after the first assessment.

We used a convenience sampling method to obtain participants. Students were invited to participate through announcements from the researchers, whereas non-student respondents were recruited using a snowball-sampling technique. All participants were invited to take part in a study to research “relationships between emotions and cognition.” All assessments were voluntary, and anonymity was guaranteed. Questionnaires were administered in paper-and-pencil format, and written instructions were

provided. Undergraduate student participants completed the questionnaires in a group session and received course credit for their participation, whereas non-student participants completed questionnaires individually and received no compensation for their involvement in the study.

Instruments

Strategic Test of Emotional Intelligence—STEI. The STEI comprises 11 emotion-eliciting scenes. Each scene includes 2–5 sentences describing the emotionally salient aspect of a situation involving one or more protagonists (e.g., Pilar and Ruth are work colleagues. Pilar has been working in the company for a long time while Ruth started some weeks ago. Both are working in the office when the boss comes into the room and criticizes Ruth’s performance in the presence of the rest of the workers). Based on each of these scenes, individuals must complete two tasks reflecting Strategic EI. In the understanding emotions task, individuals rate the extent to which the main protagonist in the scene feels each of five emotions (to what extent is Ruth feeling the following emotions?), using a 5-point scale (1 = *not at all*, 5 = *very much*). This task assesses the respondent’s ability to associate emotions with a real situation, given the characteristics of the situation and the protagonists. In the managing emotions task, individuals rate the effectiveness of five alternative emotion regulation strategies (What could Pilar do to manage Ruth’s feelings? Assess the extent to which the following strategies would be useful: (1) Take the opportunity to tell her that she is not happy with her work, or; (2) Reassure her by explaining that these are normal reactions of the boss and that it is not her fault, etc.), again using a 5-point Likert scale (1 = *completely ineffective*, 5 = *completely effective*). For the six scenes, respondents rate the effectiveness of different strategies by which the protagonist can regulate his or her own emotions; for the other five scenes, as in the example provided, respondents rate the effectiveness of different strategies by which the protagonist can regulate other people’s emotions. An empirical scoring method was used (Bergman, Drasgow, Donovan, & Heening, 2006). Each scene is composed by 10 items, thus, the total number of items of the STEI is 110 items, 55 items corresponding to the understanding factor and 55 to the managing emotions factor. The performance of the respondent on each task for each scene is summed across all 11 scenes to give an overall score on understanding emotions and an overall score for managing emotions. Both of these scores are then combined to give an overall score for Strategic EI. These overall scores were adjusted based on consensus criteria obtained using the entire study sample. The time of the test was about 20–30 min.

Development of the STEI. This test was developed according to the Situational Judgment Test paradigm following four developmental stages to ensure ecological validity. In Step 1, 56 participants completed semi-structured interviews in which they described five emotional situations they had experienced in the last month, defining the main characteristics of the situation, the emotional state they experienced, and the consequences of the situation (e.g., how they managed the situation). In Step 2, 29 emotion-eliciting situations were generated based on these interviews. The situations were designed to elicit both positive and negative emotions and to involve intra- and interpersonal scenarios involving both the workplace and personal life. Then a task evaluating each branch of Strategic EI was created and placed at the end of the situation text. The understanding emotions task was presented first, followed by the managing emotions task, according to the hierarchy described by the EI theoretical model. Each task was developed by taking into account respondent interviews, theories about the structure of emotions (e.g., Roseman, 2001), and reviews of intra- and interpersonal emotion regulation strategies (e.g., Niven, Totterdell, & Holman, 2009; Parkinson & Totterdell, 1999). In Step 3, these 29

situations were divided between one set of 17 situations involving intrapersonal scenarios, which was administered to 97 undergraduate students; and a set of 12 situations involving interpersonal scenarios, which was administered to 74 undergraduate students. Situations in which task performance showed greater variability and reliability were selected to make up a preliminary version of the STEI with 17 situations and 177 items. In Step 4, this preliminary version was administered to 98 undergraduate students, and a subset of situations showing greater reliability and variability was chosen to make up the final version of the STEI. This version contained 11 emotion-eliciting scenes involving six intrapersonal and five interpersonal scenarios involving the workplace and personal life, which were designed to elicit positive and negative emotions. The total number of items was 110, with half of the items evaluating understanding emotions, and the other half evaluating managing emotions.

Other instruments used to assess STEI validity

The *Mayer–Salovey–Caruso Emotional Intelligence Test* (MSCEIT v.2.0; Mayer et al., 2002) was used to assess ability EI through the performance of independent tasks involving emotional problems. The MSCEIT contains 141 items and assesses all four branches of the theoretical model of Mayer and Salovey (1997). Scores on each branch are summed to provide an overall EI. The MSCEIT v.2.0 shows appropriate psychometric properties, as well as convergent and discriminant validity (Mayer et al., 2002). The Spanish version of the MSCEIT used in the present study shows satisfactory psychometric properties (Extremera, Fernández-Berrocal, & Salovey, 2006). In the present study, Cronbach's alpha for the MSCEIT total was .82.

Raven's Progressive Matrices (Raven, Court, & Raven, 1993) are a series of multiple-choice items that involve abstract reasoning and measure fluid intelligence. Each item depicts an abstract pattern in a two-by-two or three-by-three matrix, in which all cells contain a figure, except for the cell in the lower right corner. Participants respond to 60 items to identify the missing segment that would best complement the pattern constituted by the other cells among a set of alternatives positioned beneath the matrix. This instrument shows high test–retest reliability ($\alpha = .91$) (Raven et al., 1993).

The *Vocabulary Subtest of the Wechsler Adult Intelligence Scale-IV* (WAIS-IV, Wechsler, 2008), composed of 30 items, was used to evaluate verbal reasoning ability, concept formation, and knowledge. The WAIS-IV measures general intelligence through numerous subtests. This instrument shows satisfactory psychometric properties (Canivez, 2010).

The *Big Five Inventory-44* (BFI-44; Benet-Martinez & John, 1998) was used to assess personality traits. The BFI-44 contains 44 bipolar items and a self-report inventory designed to assess the Big Five factors of personality: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. The BFI-44 scales show substantial internal consistency, retest reliability, and a clear factor structure. The Spanish version of BFI-44 used in the present study shows similar psychometric properties as the English version. In our sample, alpha coefficients ranged from $\alpha = .64$ to $.85$.

The *Interpersonal Reactivity Index* (IRI, Davis, 1983) was used to measure empathy. It is a self-report questionnaire comprising 28 items, to which respondents reply using a 5-point Likert scale (1 = *does not describe me at all*, 5 = *describes me very well*). These items assess two cognitive dimensions and two emotional dimensions. The cognitive dimensions are *Perspective Taking*, which assesses the tendency to adopt others' points of view; and *Fantasy*, which assesses the tendency to imagine oneself in the situation of fictitious characters and to experience their emotions. The emotional dimensions are *Empathic Concern*, which measures feelings of sympathy and concern for others; and *Personal Distress*, which

measures feelings of anxiety that may occur in conflict situations. The Spanish version of the IRI used in the present study shows adequate psychometric properties. In our sample, alpha coefficients ranged from $\alpha = .70$ to $.82$.

Data analyses

When less than 10% of STEI items were answered, scores were deleted and excluded from analysis. SPSS 20 was used to compute descriptive statistics, correlation analyses, internal consistency, and analyses of variance. EQS 6.1 was used to carry out confirmatory factor analysis (CFA). Since departures from multivariate normality can have a significant impact on maximum likelihood (ML) estimation, we calculated descriptive analytical measures prior to conducting CFA. Univariate and multivariate kurtosis statistics were found to indicate non-normality, so the Satorra–Bentler scaled ML correction was used to adjust the chi-square model. Following Schweizer's recommendations, we used the following additional measures of model fit: (a) the root mean square error of approximation (RMSEA), (b) the Bentler Comparative Fit Index (CFI), and (c) the standardized root mean square residual (SRMR); finally, we also included the Goodness of Fit Index (GFI). CFI and GFI values exceeding .90 signify acceptable fit. RMSEA values below .08 are considered acceptable fit, and values below .05 indicate good fit. Finally, SRMR values should remain below .10. We analyzed two models and the observed variables in both models were the scores on understanding emotions and managing emotions in each scene of the STEI (11 scenes). One model was a one-factor model, where a higher-order latent factor was allowed such that both understanding emotions and managing emotions scores on each scene loaded on a single general factor. The other model was a two-factor model, where understanding emotions and managing emotions were allowed to be related higher-order latent factors.

Results

Factor structure

Fit parameters for the one-factor model were χ^2 ($df = 209$) = 605.23, $p < .01$; normed $\chi^2 = 2.71$; RMSEA = .06 (90% CI = .06–.07); CFI = .85; GFI = .87 and SRMR = .06, indicating a poor fit to the data. Fit parameters for the two-factor model were χ^2 ($df = 208$) = 482.04, $p < .01$; normed $\chi^2 = 2.31$; RMSEA = .05 (90% CI = .04–.06); CFI = .90; GFI = .90 and SRMR = .05, indicating a good fit to the data. This result suggests the importance of including the scores of both the understanding and managing emotions factors. Table 1 shows the results from this model, together with standardized beta coefficients.

Reliability and correlations between STEI scores

Table 2 shows descriptive statistics for the STEI results, STEI reliability based on Cronbach's alpha and test–retest correlation, and correlations between STEI scores (Table 1). Cronbach's alpha coefficients were adequate: .82 for the understanding emotions task, .85 for the managing emotions task, and .90 for overall Strategic EI score. Test–retest correlations over 6 months were lower for the individual branch: $r = .42$ for understanding emotions, $r = .53$ for managing emotions, but adequate, $r = .78$, for Strategic EI. The correlation between the understanding and managing emotions tasks was $r = .70$, while correlations between each task and overall Strategic EI score were $r = .93$ in the case of understanding emotions, and $r = .91$ in the case of managing emotions.

Table 1
STEI understanding and managing scores for each scene and their confirmatory factor loadings.

Factor	Scene	Standard factor loading
Understanding emotions	Scene 1	.49
	Scene 2	.49
	Scene 3	.53
	Scene 4	.51
	Scene 5	.61
	Scene 6	.66
	Scene 7	.62
	Scene 8	.70
	Scene 9	.34
	Scene 10	.60
	Scene 11	.45
Managing emotions	Scene 1	.48
	Scene 2	.52
	Scene 3	.50
	Scene 4	.54
	Scene 5	.50
	Scene 6	.56
	Scene 7	.67
	Scene 8	.65
	Scene 9	.74
	Scene 10	.65
	Scene 11	.72

Correlations between STEI scores and age, and gender differences

Multivariate analysis of variance was conducted to analyze gender differences in the understanding and managing emotions tasks. The multivariate main effect for gender was significant [Wilk's lambda (2, 482) = .96, $p < .01$]. The univariate test revealed that female participants scored higher than males on the understanding emotions task [$F(1, 483) = 11.13$, $p < .01$, $d = .30$] and on the managing emotions task [$F(1, 483) = 20.10$, $p < .01$, $d = .54$]. These effect sizes were small to moderate. Analysis of variance was conducted to analyze gender differences in overall Strategic EI score, again revealing that female participants scored higher than males [$F(1, 483) = 17.70$, $p < .001$, $d = .49$]. In this case, the effect size was moderate.

Pearson correlations showed weak negative associations between age and STEI scores on the understanding emotions task ($r = -.10$, $p < .05$), on the managing emotions task ($r = -.12$, $p < .01$) and on the overall Strategic EI score ($r = -.12$, $p < .01$).

Associations between STEI scores and MSCEIT, fluid and verbal intelligence, personality traits, and empathy

Significant, positive, moderate correlations were found between scores on the STEI and MSCEIT (Table 3). When same-branch tasks were compared between the two instruments, correlation coefficients were found to be $r = .42$ ($p < .01$) for the understanding emotions task and $r = .54$ ($p < .01$) for the managing emotions task. The correlation between the MSCEIT Strategic area score and STEI overall Strategic EI score was $r = .56$ ($p < .01$), while the correlation between the MSCEIT total score and STEI overall Strategic EI score was $r = .66$ ($p < .01$).

Table 2
Descriptive statistics, alpha reliabilities, test–retest correlations, and correlations among STEI scores.

	Asymmetry	Kurtosis	Mean (SD)			Alpha	Test–retest	1	2
			Entire sample	Men	Women				
1. Understanding emotions	–2.43	7.33	99.74 (16.08)	96.29(20.32)	101.46(13.41)	.82	.42	–	–
2. Managing emotions	–1.46	2.78	99.64 (14.35)	95.41(15.54)	101.55(13.42)	.85	.53	.70**	–
3. Strategic EI	–2.27	6.65	99.69 (14.03)	95.85(16.91)	101.50(12.15)	.90	.78	.93**	.91**

* $p < .05$.

** $p < .01$.

Verbal intelligence showed weak correlations with STEI scores on the managing emotions task ($r = .17$, $p < .05$) and overall Strategic EI score ($r = .19$, $p < .05$; Table 2). No correlations were found between fluid intelligence and STEI scores.

Personality traits also showed weak correlations with STEI scores (Table 4). The strongest correlations were between agreeableness and scores for the managing emotions task ($r = .25$, $p < .01$) and overall Strategic EI ($r = .24$, $p < .01$).

Significant positive correlations were found between empathic concern and STEI scores (Table 3), the strongest of which was with scores on the managing emotions task ($r = .38$, $p < .001$). A weak positive correlation was found between perspective taking and scores on the managing emotions task ($r = .18$, $p < .05$).

Discussion

The main aim of this study was to develop a new performance test that would add to the existing range of tests available for assessing ability EI and thereby help clarify issues related to the theory and measurement of this construct (Roberts, Zeidner, & Matthews, 2007), in this case in Spanish culture. The present preliminary study validates the STEI in a Spanish sample and provides evidence that the instrument is as reliable as the other available EI instrument—the MSCEIT—in this population (Extremera & Fernández-Berrocal, 2009; Sánchez-García et al., 2016). Further, The STEI may provide a useful way to assess Strategic EI, with the use of a more ecologically valid methodology.

The STEI shows a two-factor structure according to the understanding and managing emotions branch of the Strategic area of the ability model of EI (Mayer & Salovey, 1997), adequate reliability, as well as a satisfactory internal consistency and stability over time (when scored as Area), which is consistent with prior studies based on the assessment of EI with SJT in English speaking cultures (MacCann & Roberts, 2008). In addition, STEI scores were higher for women than men, a finding that is in line with the results of studies based on other ability EI measures (Brackett & Mayer, 2003; Ciarrochi, Chan, & Caputi, 2000). STEI scores showed weak and negative correlations with age, consistent with studies suggesting that age-related cognitive decline reduces emotional abilities in older people (Cabello, Navarro, Latorre, & Fernández-Berrocal, 2014).

It is noteworthy that our findings with this new instrument converged with the MSCEIT, the only Spanish validated tool for assessing Strategic EI. Indeed, correlations between STEI and MSCEIT scores were stronger than those between STEI scores and other affective variables (Orchard et al., 2009).

Regarding the discriminant validity of the STEI, our results showed that scores on STEI did not correlate with those of other well-established psychological constructs. For instance, STEI scores showed correlations with the Big Five personality traits that were weak but insufficient according to Cohen criteria. Similarly, weak correlations have been reported for other ability-based tests (MacCann & Roberts, 2008; Roberts, Schulze, & MacCann, 2008). STEI scores also showed weak correlations with verbal and fluid intelligence. This is consistent with the predictions of the Mayer and

Table 3
Correlations between STEI scores and scores on MSCEIT, and verbal and fluid intelligence.

	n = 140						n = 95		
	MSCEIT perceiving	MSCEIT using	MSCEIT understanding	MSCEIT managing	MSCEIT experiential area	MSCEIT strategic area	MSCEIT total score	Verbal intelligence	Fluid intelligence
Understanding emotions	.45**	.44**	.42**	.30**	.51**	.42**	.57**	.05	.16
Managing emotions	.40*	.30**	.34**	.54**	.42**	.55**	.58**	.06	.17*
Strategic EI	.49*	.42**	.44**	.48**	.54**	.56**	.66**	.06	.19*

* $p < .05$.

** $p < .01$.

Table 4
Correlations between STEI scores and measures of personality traits and empathy.

	n = 309					n = 213			
	E	A	C	N	O	Fantasy	Perspective taking	Empathic concern	Personal distress
Understanding emotions	.14*	.19**	.10	-.01	.12*	.02	.01	.26**	-.13
Managing emotions	.17**	.25**	.16**	.02	.18**	.11	.18**	.38**	-.09
Strategic EI	.17**	.24**	.14*	.01	.16**	.07	.10	.34**	-.12

Abbreviations: A, Agreeableness; C, Conscientiousness; E, Extraversion; N, Neuroticism; O, Openness to Experience.

* $p < .05$.

** $p < .01$.

Salovey theoretical model (Mayer, Salovey, Caruso, & Sitarenios, 2001) and with past empirical findings using the MSCEIT (Webb et al., 2013) or STEM and STEU (MacCann & Roberts, 2008) that indicate that while EI is a cognitive ability, it is distinct from verbal and fluid intelligence. STEI scores correlated weakly with empathy, showing that they are also related but not redundant constructs, in line with the findings of previous research (Ciarrochi et al., 2000). In general, these findings suggest that the STEI might serve as a potential EI measure based on the criteria established by Orchard et al. (2009).

The STEI could represent an important advance in EI research in at least two ways. First, this kind of performance measure avoids the social desirability and shared variance method bias of ability EI assessments based on self-report. Second, the fact that the same emotion-eliciting stimulus is used to assess performance on different tasks provides a new approach that differs from other tests that rely on separate processes.

Nevertheless, certain shortcomings should be noted. A potential limitation of the STEI is that it is based on emotional situations and interpersonal and social factors derived from the Spanish context. This provides a “native” instrument for assessing Spanish populations, but at the same time, it presents a challenge for assessing Strategic EI in non-Spanish cultures. Culture and social practices are believed to strongly influence Strategic EI (Zeidner, Roberts, & Matthews, 2002) as well as SJT (Lievens et al., 2015). Another limitation of the study is the use of a convenience sample. Further work should verify and extend the validity of STEI by demonstrating that it might predict important everyday life outcomes related to psychological, educational, and social wellbeing in Spanish samples (e.g., Meléndez, Delhom, & Satorres, 2019; Navarro-Bravo, Latorre, Jiménez, Cabello, & Fernández-Berrocal, 2019; Puigbó, Edo, Rovira, Limonero, & Fernández-Castro, 2019; Schoeps, Tamarit, de la Barrera, & González-Barrón, 2019). Another important question is whether STEI scores can be modified through training that focuses on Strategic EI abilities. The development and validation of a measure of Strategic EI suggests the feasibility of doing the same for Experiential EI, which may improve studies that seek to encompass the entire range of the integrative Ability Model of EI. The availability of separate validated instruments to examine Strategic or Experiential EI may help refine our analysis and understanding of EI and, in turn, EI-focused interventions.

Funding

This work was supported by the project Innovation and Development Agency of Andalusia, Spain [grant number SEJ-07325]; The Ministry of Economy, Industry and Competitiveness [grant number PSI2017-84170-R].

Conflict of interests

The authors declare no conflict of interest.

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