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Brief Emotional Intelligence Inventory for Senior Citizens (EQ-i-M20)

Mª del Carmen Pérez Fuentes, José Jesús Gázquez Linares, Isabel Mercader Rubio and Mª del Mar Molero Jurado
Universidad de Almería

Abstract

Background: In recent years, diverse studies have been carried out revealing many benefits of high levels of Emotional Intelligence (EI) for the older population, affecting their physical and mental health, cognitive capacity, social functioning, and, ultimately, their well-being and quality of life. However, in Spain, there is no reliable and valid instrument for the assessment of EI. Hence, the goal of this work is the adaptation of the Emotional Intelligence Inventory: Young Version to the population of older university students. **Method:** To achieve this goal, two studies were carried out (the first one of calibration, and the second of validation) with students from two Seniors Citizens' Universities (Almería and Oviedo). **Results:** The results indicate that the instrument is reliable and structurally valid, although some doubts emerged about the appropriateness of one of the five factors (stress management) within this structure. **Conclusions:** The use of the EQ-i-M20 is recommended, although new studies are needed to shed light on the role of the factor stress management within the EI construct.

Keywords: Emotional intelligence, Emotional Intelligence Inventory, old age.

Resumen

Inventario Breve de Inteligencia Emocional para Mayores (EQ-i-M20). **Antecedentes**: en los últimos años se han realizado diversos estudios que revelan la existencia de múltiples beneficios que en la población mayor logran altos niveles de Inteligencia Emocional (IE) sobre la salud física, la salud mental, la capacidad cognitiva, el funcionamiento social y, en definitiva, sobre el bienestar y la calidad de vida. No obstante, no existe en nuestro país un instrumento fiable y válido para la evaluación de la IE. Por ello, el objetivo de este trabajo ha sido la adaptación del Emotional Intelligence Inventory: Young Version a la población de mayores universitarios. **Método:** para conseguir este objetivo han sido llevados a cabo dos estudios (el primero de calibración y el segundo de validación) con estudiantes de dos Universidades de Mayores (Almería y Oviedo). **Resultados:** los resultados indicaron que el instrumento es fiable y estructuralmente válido, surgiendo alguna duda respecto de la idoneidad dentro de esta estructura de uno de los cinco factores (manejo del estrés). **Conclusiones:** se recomienda el uso del EQ-i-M20, aunque son necesarios nuevos estudios que aporten luz sobre el papel del factor manejo del estrés dentro del constructo IE.

Palabras clave: Inteligencia emocional, Emotional Intelligence Inventory, vejez.

Throughout the past decade, interest in the scientific study of emotion and its relationship with other aspects of human development has been growing (Bernarás, Garaigordobil, & de las Cuevas, 2011; Zaccagnini, 2004). Emotion appears, along with cognition and motivation, as an indispensable element in human development and optimal performance (Bechara, Tranel, & Damasio, 2000), as well as health, especially in the later stages of the life cycle (Martins, Ramalho, & Morin, 2010).

Emotions, far from the traditional conception, which was only concerned with their influence on pathological processes such as anxiety and depression (Crespo, 2006; Lloyd, Malek-Ahmadi, Barclay, & Fernández, 2012), are a new field of renewed study concentrating on the benefits they provide throughout the individual's life, and even conditioning the ability to adapt to different stages of the life cycle (Charles & Carstensen, 2007; Velasco, Fernández, Páez, & Campos, 2006). Therefore, emotional stability is one of the variables present in aging (Cartensen, Pasupathi, Mayr, & Nesselroade, 2000). Studies have also shown changes in the emotional strategies used, making use of compensatory and selective mechanisms, the fruit of leaning and experience, which make the elderly more competent in emotional control (Scheibe & Carstensen, 2009; Bucks, Garner, Tarrant, Bradley, & Mogg, 2009), as well as maximization of positive over negative experiences, as already shown by Cartensen (1991) in his Socioemotional Selectivity Theory. This preference for positive experiences is related to changes in motivational goals associated with aging (Carstensen, 2006; Mather & Carstensen, 2005; Scheibe & Carstensen, 2010; Brassen, Gamer, & Büchel, 2011).

Along this line, the idea of older people being more competent in resolving situations of emotional conflict through the use of more flexible, reflective and more situationally adjusted responses than younger people is reaffirmed (Coats & Blanchard-Fields, 2008). Furthermore, in recent years, studies have revealed the existence of a multitude of benefits to physical health (Carranque et al., 2004; Extremera & Fernández-Berrocal, 2002; Ruiz-

Received: July 18, 2014 • Accepted: September 20, 2014
Corresponding author: Mª del Carmen Pérez Fuentes
Facultad de Ciencias de la Educación, Enfermería y Fisioterapia
Universidad de Almería
04120 Almería (Spain)
e-mail: mpf421@ual.es

Aranda, Salguero, & Fernández-Berrocal, 2011; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007), mental health (Augusto-Landa & Montes-Berges, 2009; Schutte et al., 2007), cognitive ability (Charles, Mather, & Carstensen, 2009; Mather & Carstensen, 2005; Singer, Rexhai, & Baddeley, 2007), social functioning (Beranuy, Oberst, Carbonell, & Chamarro, 2009; Salovey, Stroud, Woolery, & Epel, 2002) and, definitively, to well-being and quality of life (Fernández-Berrocal, Ramos, & Extremera, 2001; Mikolajczak, Petrides, Coumans, & Luminet, 2009), which high levels of Emotional Intelligence (EI) achieve in the older population.

Due to the benefits it provides, and since Emotional Intelligence is a construct in which it is possible to intervene (Bisquerra, 2000; Fernández-Ballesteros, 2009; Grewall, Brackett, & Salovey, 2006), it becomes clear that there is a need to develop EI intervention programs and measurement instruments (Extremera, Fernández-Berrocal, Mestre, & Guil, 2004) or, in their absence, adapt those already existing to the older population.

There are a multitude of adaptations of such instruments to different populations, such as the one based on the Bar-On model (2006), *Emotional Intelligence Inventory: Youth Version* (EQ-i:YV) by Bar-On and Parker (2000), validated and scaled to a young Spanish population (Ferrándiz, Hernández, Bermejo, Ferrando, & Sáinz, 2012). We start out from the hypothesis this model can explain and analyze Emotional Intelligence in the elderly while maintaining the same factorial structure in its application. The lack of adaptation to the elderly and the importance of EI observed combined with the ultimate purpose of generating new ways of intervention in this field in terms of the relationship between aging and Emotional Intelligence (Álvarez-Bermejo et al., 2013), leads us to propose an adaptation for the evaluation of EI in this population group. To achieve this goal, we start out from the *Emotional Intelligence Inventory: Youth Version* (EQ-i:YV), since it is a short instrument, which significantly reduces the number of items from the original questionnaire (Bar-On, 1997), is valid, reliable and has been adapted in Spain to young people (Ferrándiz et al., 2012).

Method

Study 1 (Calibration Study)

Participants and procedure

The sample of subjects for this first study pertains to the older population enrolled in the University for Seniors in Almería (524 students) during Academic Year 2009-2010. Of the total population, 234 subjects over 55 years of age finally participated in the study (M = 67.28; SD = 6.75), of whom 39.4% were men and 60.6% women. Regarding their education, 1.7% had no formal education, but knew how to read and write, 10.7% had a primary education, 19.7% a grade school diploma, 39.7% vocational training (FP), and 27.8% university studies. Distribution by course was, 20.1% in 1st year, 14.5% in 2nd, 12% in 3rd, 2.1% in 4th, 13.2% in 5th and 20.9% in the extension course. Insofar as the procedure, first the purpose of the study was explained to the University of Almería's University for Seniors Secretariat Director and permission was requested to carry it out. Then delivery of the questionnaires to the Centers in Almería and Roquetas de Mar for the first to fifth years and extension course was scheduled. Thus before classes began, the participants were explained the purpose, the characteristics of the questionnaires, their anonymity and that participation in the study was voluntary.

Instruments

The purpose of the study was to adapt and validate the *Emotional Intelligence Inventory: Young Version* (EQ-i:YV) by Bar-On and Parker (2000), already validated and scaled to the population of Spanish young people (Ferrándiz et al., 2012). It consists of 60 items with four answer choices on a Likert-type scale (1= very seldom true or not true of me, to 4 = very often true of me or true of me). In the original version, all the items were grouped into five factors: Intrapersonal, Interpersonal, Stress management, Adaptability, General Mood. Internal consistency is adequate with .89 (Bar-On & Parker, 2000). In the Spanish version the five-factor structure was confirmed with reliability varying from .63 to .80 (Ferrándiz et al., 2012).

Data analysis

The descriptive data and reliability were calculated with the aid of SPSS.22 (2013), and the confirmatory factor analyses were done with AMOS.22 (2013). Data analysis was done in three stages. First, a factorial model was designed corresponding to the original five-factor EQ-i:YV (60 items), and it was fit with AMOS. Since the model fit was unacceptable, we then proceeded to analyze for errors causing the lack of fit, including a reliability analysis of each item, measurement error, standard errors of estimate and correlated measurement errors. Based on the analysis of these indicators, the number of items in the questionnaire was reduced from 60 to 20 (with four pure items for each factor). In a third stage, fit of this new 20-item model (*EQ-i-M20*) was analyzed and compared to the fit of two alternative models (see Figure 1): the *single factor* model (which assumes a general emotional intelligence factor as the only first-order factor construct, and an alternative *hierarchical* model (which corresponds to the EQ-i-M20 model, but combines a second-order factor with a general emotional intelligence factor). The statistics and indices most commonly used for determining goodness of fit of models were employed: χ^2 statistic, χ^2/gl (degrees of freedom), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (*RMSEA*).

Results

Descriptive statistics

Table 1 gives the data corresponding to the correlations of the 20 items which led to the short version of the questionnaire (which we call EQ-i-M20), and the means, standard deviations, asymmetry and kurtosis. As may be observed, most of the correlations are statistically significant and kurtosis and asymmetry of each variable are acceptable, so use of the maximum likelihood method seems justified for estimating model fit.

Confirmatory factor analysis

The results of the confirmatory factor analysis show that the original model (60 items) shows a clear lack of fit for older people: χ^2 = 3747.46, gl = 1367, p<.01, χ^2/gl = 2.74, GFI = .65, $AGFI$ = .62,

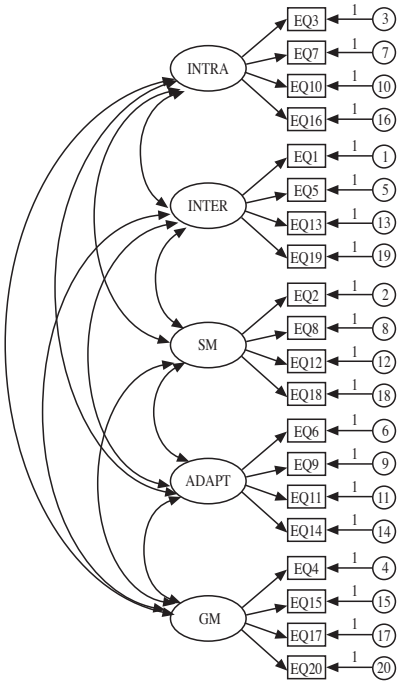

Figure 1.1.
EQ-i-M20 model (5 first-order factors)

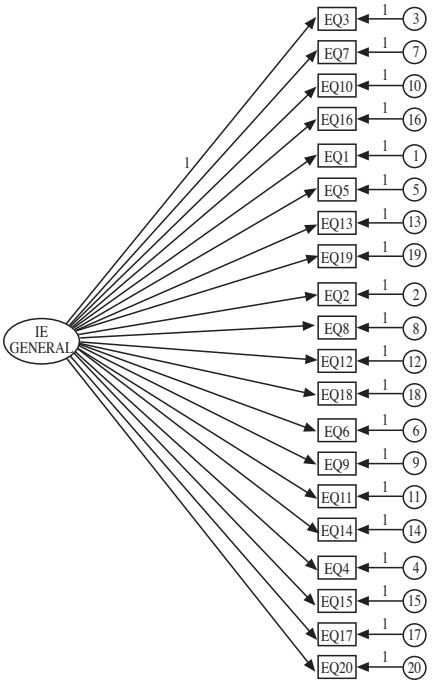

Figure 1.2.
Single-factor model (General Emotional Intelligence)

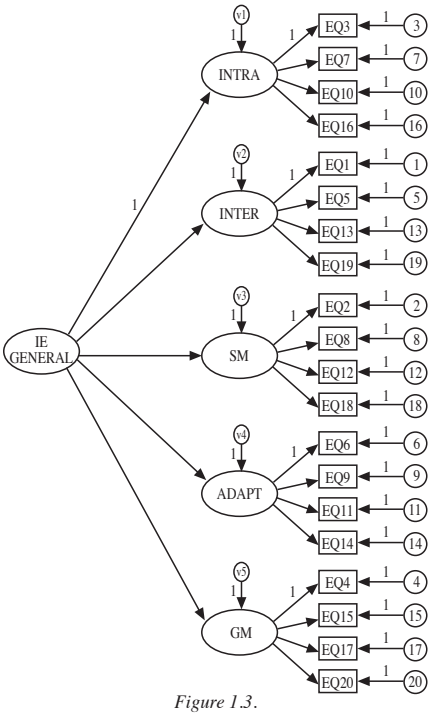

Figure 1.3.
Hierarchical model

Figure 1. *EQ-i-M20 model factor structures (five first-order factor model, single-factor model and hierarchical model)*

Table 1
Correlation matrix for items on the EQ-i-M20 Model (Study 1: calibration matrix)

	2	6	7	9	10	16	17	26	30	31	34	35	36	38	40	43	47	58	59	60
2	–																			
6	.11	–																		
7	.18**	-.09	–																	
9	.31**	-.09	.20**	–																
10	.45**	.01	.20**	.16*	–															
16	.33**	.05	.17*	.26**	.21**	–														
17	.19**	-.19**	.39**	.35**	.24**	.20**	–													
26	-.05	.43**	-.27**	.05	-.16*	.06	-.09	–												
30	.32**	.01	.08	.35**	.24**	.35**	.37**	-.04	–											
31	.32**	-.10	.29**	.27**	.22**	.28**	.55**	-.13*	.39**	–										
34	.21**	-.07	.14*	.29**	.14*	.26**	.29**	-.05	.45**	.42**	–									
35	.07	.47**	-.15*	.02	-.09	.06	.03	.55**	.06	.06	-.01	–								
36	.40**	.02	.16*	.31**	.31**	.24**	.15*	-.05	.28**	.18**	.16*	.04	–							
38	.32**	-.08	.20**	.32**	.23**	.41**	.15*	-.21**	.40**	.31**	.46**	-.06	.39**	–						
40	.17**	.08	.18**	.39**	.14*	.27**	.13*	-.01	.12	.10	.23**	.05	.30**	.29**	–					
43	.26**	-.06	.37**	.27**	.28**	.21**	.58**	-.13*	.38**	.59**	.30**	-.01	.14*	.26**	.18**	–				
47	.18**	-.02	.00	.53**	.20**	.20**	.22**	.04	.19**	.11	.16*	-.04	.31**	.20**	.57**	.18**	–			
58	-.06	.28**	-.13	.07	-.15*	-.02	-.06	.23**	.04	-.07	-.04	.34**	-.02	-.01	.02	-.06	-.09	–		
59	.33**	-.06	.10	.21**	.41**	.22**	.11	-.05	.20**	.18**	.36**	-.05	.27**	.41**	.29**	.24**	.27**	-.19**	–	
60	.07	-.07	.12	.24**	.15*	.24**	.16*	-.04	.26**	.17*	.21**	-.12	.15*	.28**	.39**	.19**	.55**	-.12	.28**	–
M	2.89	3.00	2.42	2.97	2.51	2.74	2.68	3.14	2.52	2.56	2.62	3.18	3.21	2.64	3.01	2.4	3.07	3.00	2.66	2.62
SD	.66	.72	.83	.71	.65	.70	.85	.71	.66	.86	.75	.74	.70	.67	.73	.81	.81	.82	.80	.86
Asymmetry	-.05	-.20	-.03	-.18	.31	-.27	-.17	-.58	-.08	-.08	.16	-.75	-.48	.12	-.29	.21	-.57	-.80	.06	-.16
Kurtosis	-.28	-.52	-.52	-.44	-.14	.05	-.59	.33	-.19	-.64	-.44	.60	-.30	-.18	-.31	-.36	-.21	.46	-.57	-.60

Note: The items are numbered as on the original version. *The Pearson's correlation is significant at 0.05 (two-way).
** p<.01; * p<.1

CFI = .53, *RMSEA* = .09 (.08-.09; *p*<.01). In the analysis of lack of fit it was observed that a considerable percentage of items had rather large errors of estimation, especially all those related to the Stress Management factor (ME). Apart from this, the information provided by the modification indices (MI), showed that some items were explained by several factors (items clearly not factor-specific). Finally, it was observed that there were items with closely correlated measurement errors. Therefore, in view of all of the above, the original 60-item questionnaire was reduced to 20 items, four specific to each factor, all of them reliable and without important correlated measurement errors. As mentioned, this short version is called the *Brief Inventory of Emotional Intelligence for Senior Citizens* (EQ-iM20). Table 1 shows the correlations, mean, standard deviation, asymmetry and kurtosis corresponding to the 10 items on the EQ-i-M20.

The next step was to fit the EQ-i-M20 and the other two alternative models (see Figure 1). The results of fit of the hypothesized five first-order factor model (EQ-i-M20) were not excellent, but may be considered acceptable (χ^2 = 371.29, gl = 160, *p*<.001, χ^2/gl = 2.32, *GFI* = .87, *AGFI* = .83, *CFI* = .85 (*PCFI* = .71), *RMSEA* = .08 (.07-.09, *p*<.01). The fit of the alternative models was no better: the fit of the single-factor model (Figure 1.2) is poor (χ^2 = 836,79, *gl* = 170, *p*<.001, χ^2/gl = 4.92, *GFI* = .72, *AGFI* = .65, *CFI* = .52, *RMSEA* = .13 (.12-.14, *p*<.01), and the hierarchical model (Figure 1.3) did not improve fit over the single factor model (χ^2 = 375.23, *gl* = 165, *p*<.001, χ^2/gl = 2.27, *GFI* = .87, *AGFI* = .83, *CFI* = .85, *RMSEA* = .07 (.06-.08, *p*<.001). The data found definitively suggest that the 20-item five-factor model is the most appropriate to represent the emotional intelligence structure of the population that the sample selected represents. Table 2 gives the statistics corresponding to the fit of the EQ-i-M20 model.

Table 2
Results of fit of the EQ-i-M20 Model (Study 1: Calibration Matrix)

Factor	Item	Unstandardized coefficient (λ)	Standardized coefficient (λ)	S.E.	C.R.	P	R^2
Intrapersonal	3 (7)	1.00	.46	–	–	–	.21
	7 (17)	1.65	.74	.26	6.35	***	.54
	10 (31)	1.71	.75	.27	6.39	***	.57
	16 (43)	1.68	.79	.26	6.48	***	.62
Interpersonal	1 (2)	1.00	.65	–	–	–	.43
	5 (10)	.92	.61	.13	7.02	***	.37
	13 (36)	.91	.57	.14	6.66	***	.32
	19 (59)	1.10	.59	.16	6.87	***	.35
Stress management	2 (6)	1.00	.62	–	–	–	.38
	8 (26)	1.11	.70	.15	7.41	***	.48
	12 (35)	1.28	.78	.17	7.44	***	.61
	18 (58)	.75	.41	.15	5.02	***	.16
Adaptability	6 (16)	1.00	.54	–	–	–	.29
	9 (30)	1.15	.65	.17	6.68	***	.43
	11 (34)	1.24	.63	.19	6.52	***	.39
	14 (38)	1.21	.68	.18	6.81	***	.46
General mood	4 (9)	1.00	.60	–	–	–	.36
	15 (40)	1.12	.67	.14	7.79	***	.44
	17 (47)	1.62	.86	.19	8.57	***	.74
	20 (60)	1.21	.60	.18	7.22	***	.36

Note: SE = Standard errors, C.R. = Critical ratio, P = Probability, R^2 = Multiple square correlation coefficient of each item. () Item number on the original questionnaire

Study 2 (Validation Study)

Participants and procedure

The sample of subjects in the second study pertains to the population of older people enrolled in the University for Seniors in Almería and the University for Seniors in Oviedo in Academic Year 2013-2014. Of the total population, 326 subjects finally participated in the study (*M* = 63.79; *DT* = 6.92), of which 59.4% were women. The procedure used was similar to the first study.

Instruments

The instrument applied was the short version of the *Emotional Intelligence Inventory: Young Version* (EQ-i:YV) by Bar-On and Parker (2000) described for the first study. In this sample, the Cronbach Alpha was .57 for the Intrapersonal factor, .80 for the Interpersonal factor, .68 for Stress Management, .81 for Adaptability and .83 for the General Mood factor.

Data analysis

As in the first study, the descriptive data were found with the aid of the SPSS.22 (2013), and confirmatory factor analyses were done with AMOS.22 (2013), by which fit of the EQ-i-M20 model and the two alternatives were studied (see Figure 2) to acquire information on the consistency of the structure found in the first study.

Results

Descriptive statistics

Table 3 gives the data corresponding to the correlations of the 20 items on the EQ-i-M20 found in this second sample of students, as well as the means, standard deviations, asymmetry and kurtosis. As in the first study, most of the correlations were statistically significant and the kurtosis and asymmetry of each variable show acceptable values for use of the maximum likelihood method for estimation of model fit.

Confirmatory factor analysis

The results of fit of the EQ-i-M20 model (see Figure 1) are very similar to those found based on the sample in the first study, and may also be considered acceptable (χ^2 = 391.16, *gl* = 160, *p*<.001, χ^2/gl = 2.44, *GFI* = .89, *AGFI* = .86, *CFI* = .90 (*PCFI* = .75), *RMSEA* = .06 (.058-.075, *p*<.001), and better than the two alternative models: single-factor (χ^2 = 1342,20, *gl* = 170, *p*<.001, χ^2/gl = 7.89, *GFI* = .67, *AGFI* = .59, *CFI* = .47, *RMSEA* = .15 (.14-.15, *p*<.001) and as good as the hierarchical model, given its greater complexity (χ^2 = 394.10, *gl* = 165, *p*<.001, χ^2/gl = 2.39, *GFI* = .89, *AGFI* = .86, *CFI* = .90, *RMSEA* = .65 (.057-.074, *p*<.001).

The data found suggest the structural validation of the EQ-i-M20. Table 4 shows the statistics corresponding to the fit of the EQ-i-M20 model based on the sample of this second study.

Table 3
Correlation matrix for items on the EQ-i-M20 Model (Study 2: validation matrix)

	2	6	7	9	10	16	17	26	30	31	34	35	36	38	40	43	47	58	59	60
2	–																			
6	.06	–																		
7	.17**	-.07	–																	
9	.29**	-.05	.21**	–																
10	.49**	.13*	.17**	.21**	–															
16	.37**	.07	.19*	.24**	.22**	–														
17	.21**	-.07	.45**	.32**	.21**	.20**	–													
26	.10	.59**	-.15**	.05	-.14*	.01	-.02	–												
30	.33**	.03	.13	.37**	.26**	.33**	.36**	-.02	–											
31	.29**	-.09	.36**	.32**	.26**	.26**	.56**	-.07	.41**	–										
34	.23**	-.00	.15**	.29**	.16**	.27**	.27**	.02	.48**	.41**	–									
35	.08	.64**	-.09	.00	-.13*	.00	.03	.71**	.09	.03	.07	–								
36	.36**	.02	.21**	.23**	.25**	.20**	.18**	.00	.26**	.20**	.18**	.07	–							
38	.31**	-.11	.23**	.31**	.23**	.37**	.17**	-.19**	.40**	.34**	.45**	-.09	.37**	–						
40	.21**	.08	.19**	.42**	.16**	.28**	.21**	.00	.16**	.16**	.22**	.01	.25**	.31**	–					
43	.22**	-.14	.42**	.26**	.29**	.17**	.58**	-.12*	.33**	.60**	.28**	-.06	.16**	.29**	.18**	–				
47	.16**	-.02	.10	.48**	.15**	.16**	.27**	.05	.20**	.16**	.17*	-.02	.28**	.24**	.59**	.21**	–			
58	-.05	.50**	-.15**	.03	-.19*	-.04	-.04	.47**	.04	-.08	-.02	.53**	-.02	-.12*	.00	-.14*	-.08	–		
59	.34**	-.07	.09	.18**	.38**	.21**	.11*	-.06	.19**	.19**	.37**	-.08	.28**	.42**	.29**	.23**	.23**	-.17**	–	
60	.10	-.11	.17**	.31**	.17*	.23**	.20**	-.09	.24**	.19**	.16**	-.16**	.15**	.31**	.46**	.21**	.55**	-.14*	.23**	–
M	2.88	2.64	2.45	2.96	2.56	2.76	2.66	2.79	2.51	2.59	2.60	2.82	3.20	2.70	2.99	2.50	3.04	2.72	2.71	2.68
SD	.66	.93	.84	.73	.66	.71	.85	.92	.68	.85	.76	.94	.71	.68	.74	.82	.81	.92	.79	.87
Asymmetry	-.19	-.52	-.29	-.22	.04	.15	.01	-.26	-.37	-.38	-.35	-.21	.02	-.43	.29	.02	.13	-.13	-.17	.05
Kurtosis	-.60	-.31	-.36	-.37	-.21	-.43	-.19	.00	-.67	-.75	-.72	.82	-.59	-.55	-.22	-.42	-.46	.59	-.59	-.55

Note: Numbering
The items are numbered as on the original version. * Pearson's correlation coefficient is significant at 0.05 (two-way).
** p<.01; * p<.1

Table 4
Results of fit of the EQ-i-M20 model (Study 2: Validation matrix)

Factor	Item	Unstandardized coefficient (λ)	Standardized coefficient (λ)	S.E.	C.R.	P	R^2
Intrapersonal	3 (7)	1.00	.53	–	–	–	.42
	7 (17)	1.42	.74	.16	8.68	***	.65
	10 (31)	1.47	.77	.17	8.83	***	.52
	16 (43)	1.43	.80	.16	8.86	***	.36
Interpersonal	1 (2)	1.00	.68	–	–	–	.46
	5 (10)	.91	.62	.11	8.47	***	.40
	13 (36)	.80	.51	.11	7.30	***	.43
	19 (59)	1.03	.58	.13	8.12	***	.27
Stress Management	2 (6)	1.00	.74	–	–	–	.38
	8 (26)	1.07	.81	.08	13.81	***	.76
	12 (35)	1.18	.87	.08	14.44	***	.65
	18 (58)	.82	.61	.08	10.50	***	.55
Adaptability	6 (16)	1.00	.52	–	–	–	.34
	9 (30)	1.21	.66	.16	7.69	***	.26
	11 (34)	1.30	.63	.17	7.54	***	.38
	14 (38)	1.24	.68	.16	7.77	***	.46
General mood	4 (9)	1.00	.60	–	–	–	.61
	15 (40)	1.24	.72	.13	9.47	***	.60
	17 (47)	1.51	.81	.15	9.89	***	.55
	20 (60)	1.29	.64	.14	8.81	***	.28

Note: SE = Standard errors, C.R. = Critical ratio, P = Probability, R^2 = multiple square correlation coefficient of each item. () Item number on the original questionnaire

Discussion

This study was intended to analyze the EQ-i model by Bar-On (1997) in elderly people. The adaptation for young people, *Emotional Intelligence Inventory: Youth Version* (EQ-i:YV) by Bar-On and Parker (2000), specifically, the version validated and scaled to the young Spanish population (Ferrándiz et al., 2012), was used to do this, applying it to a sample of students at the University of Almería's University for Seniors. The results found show that the 60-item EQ-i-YV questionnaire is not appropriate for evaluation of EI in such a population.

When the model and its factorial structure had been analyzed, the following, based on the data, and in view of the need to design a questionnaire adapted to this population, was to proceed to the analysis and reduction of the number of items, to retain the most appropriate for measuring this construct in this sample of subjects. Finally, the short version of this questionnaire consisting of 20 items was proposed. It showed acceptable fit, and was entitled *the Short Inventory of Emotional Intelligence for Senior Citizens* (EQ-i-M20). Its factorial structure is the one proposed by Bar-On and Parker (2000), and by Ferrándiz (2012), for the Spanish population. To check the structural validity of the EQ-i-M20 and its consistency, this instrument was given to a second sample and the analyses done in the first study were performed again. The results showed, as we had hypothesized, that: (a) the model representing the EQ-i-M20 fit reasonably well (without having to include some of the correlated measurement errors which were statistically significant

in the fit), (b) the five-factor structure is consistent (since it was replicated in a second sample of subjects two years after the first study), and (c) this model is preferable to the hierarchical model (for which fit indices were very similar to the one which was not) because it is more parsimonious and because one of the factors on the first level of the structure (ME: Stress management) shows a null explanation by the general second-order factor.

Although model validity and maintenance of the five factors have been demonstrated, it should be mentioned that those that comprise Stress Management (ME) show factor weights which are a little weak. This may be because they are more flexible, more situationally adjusted and more reflexive than younger people (Coats & Blanchard-Fields, 2008), which causes less anxiety and better management of stressful situations. It should also be emphasized that other studies, with other samples from the population of elderly, are necessary to be able to evaluate the extent to which the model is really appropriate, and whether, to the contrary, the Stress Management (ME) factor should be eliminated from the EQ-i-M20. Apart from this, as older people have many characteristics not represented in the sample of students from the University for Seniors, the basic goal of future research should consist of applying this 20-item inventory (EQ-i-M20) to other sectors of the senior population.

Finally, this study has some important implications, since as we have stressed above, EI in the elderly should be analyzed and evaluated for the ultimate goal of planning and carrying out intervention programs that improve psychosocial policies (Extremera et al., 2004). For this purpose, to facilitate the use of this instrument, at http://www.formacionasunivep.com/investigacion-asunivep/inventario-inteligencia-emocional.html, the user may enter the answers to his paper questionnaires and the application provides a report with the results for each of the factors. This report is prepared based on a scale constructed from the data on the sample in this study, which may also be queried.

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