

## Psychometric Properties of the Spanish version of the Family Adaptability and Cohesion Evaluation Scale IV

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### Abstract

**Introduction:** Building on the expanding cross cultural interest in FACES, the Spanish version of the Family Adaptability and Cohesion Evaluation Scale (FACES IV), aimed at the assessment of the dimensions of cohesion and flexibility of the Circumplex Model, was validated following the author's guidelines. **Method:** The sample was composed by 665 college students. Besides, FACES II was also used and family communication, satisfaction, stress and strengths were also measured. **Results:** The results supported its psychometric adequacy. Construct validity, concurrent and discriminant validity of all the scales were confirmed, maintaining the original structure of the instrument, with 6 scales, 4 Unbalanced scales (Disengaged, Enmeshed, Rigid, and Chaotic), and two Balanced scales (Cohesion and Flexibility). Additionally, the ratio scores confirmed the curvilinearity of the model. **Conclusion:** All the results supported the adequacy of the Spanish version, which is also promising for use in educational settings, in counseling and in research. Findings with the Spanish version of FACES IV are similar to findings in the United States and other countries.

**Keywords:** FACES IV, validity, reliability, family functioning, cohesion, flexibility.

### Resumen

**Propiedades psicométricas de la versión española de la Escala de Evaluación de la Adaptabilidad y la Cohesión Familiar. Antecedentes:** partiendo del creciente interés en distintas culturas por el FACES, la versión española de la Spanish version of the Family Adaptability and Cohesion Evaluation Scale (FACES IV), dirigida a evaluar las dimensiones de cohesión y flexibilidad del Modelo Circumplejo, fue validada siguiendo las guías del autor. **Método:** la muestra estuvo compuesta por 665 estudiantes universitarios. Además del FACES IV, también se empleó el FACES II, y la comunicación, satisfacción, estrés y recursos familiares también fueron evaluados. **Resultados:** los resultados apoyaron su adecuación psicométrica. La validez de constructo, concurrente y discriminante de todas las escalas fue confirmada, manteniendo la estructura original del instrumento con 6 escalas, 4 extremas (Desapego, Apego, Rigidez y Caos) y dos moderadas (Cohesión y Flexibilidad). Las ratios confirmaron la curvilinealidad del modelo. **Conclusión:** todos los resultados apoyaron la adecuación de la versión española, la cual es prometedora para su uso en contexto educativo, en orientación psicológica y en investigación. Los resultados con la versión española del FACES IV son similares a los encontrados en Estados Unidos y otros países.

**Palabras clave:** FACES IV, validez, fiabilidad, funcionamiento familiar, cohesión, flexibilidad.

Nearly three decades of research and more than 1200 publications (Olson, 2011) support the Circumplex Model (Olson, Sprenkle, & Russell, 1979) and its three dimensions of family functioning: cohesion or emotional closeness among the members of the family system; adaptability, later called flexibility, or amount of change in leadership, roles and rules within the relationships of the family system; and, thirdly, communication or positive skills used in the couple and in the family system (Olson & Gorall, 2003).

The first two dimensions have a curvilinear relationship with family functioning. So both extremes are dysfunctional, and families with extreme scores in either dimension will present

more problems in their relationship (the central hypothesis of the model) than families in the balanced (central) area.

These two dimensions contain five levels and when combined represent 25 types of families (Olson, 2011). The five levels of cohesion are: disengaged, somewhat connected, connected, very connected and enmeshed families. The five levels of flexibility are: rigid, somewhat flexible, flexible, very flexible, and chaotic families.

Since the construction of the model, the authors have developed different tools to assess these two dimensions of family functioning from the viewpoint of the circumplex model. All the versions of the scales received the name of FACES or Family Adaptability and Cohesion Evaluation Scale (Olson, Bell, & Portner, 1978).

However, the first version of FACES measure family functioning in a linear way. This means that they could not test the curvilinear hypothesis of the model and they are only suitable for use in non-clinical population. The latest version of the instrument (Olson, 2011) includes both the balanced and the extreme dimensions of the Circumplex model. Therefore, unlike previous versions of the FACES, the FACES IV presents six subscales: two balanced

ones (cohesion and flexibility) measuring moderate regions, and four unbalanced ones (rigid, chaotic, enmeshed and disengaged), measuring the upper and lower ends of cohesion and flexibility. The psychometric studies seem to support the reliability and validity of the instrument.

Since the development of the current version of the FACES IV, studies using this instrument to analyze family functioning in problematic situations have proliferated (Margasiński, 2014; Svetina & Nastran, 2012; Tschikof, 2012; Mirnics, Vargha, Tóth, & Bagdy, 2011). A different line of research includes studies aimed at adapting the FACES IV to different cultures and verifying the psychometric adequacy of the different versions. In Italy, Lorio, Di Nuovo, and Visani (2013), and Baiocco, Cacioppo, Laghi, and Tafá (2013) performed two validation studies of the FACES IV. Both studies supported the cross-cultural utility of the instrument after finding similar scores, although the effect size varied.

Similarly, the instrument was used in the study of Koutra, Triliva, Roumeliotaki, Lionis and Vgotzas (2013), which found support for the validity of the Greek version of the FACES IV. Mirnics, Vargha, Tóth and Bagdy (2010) carried out a validation study in Hungary. The adaptation by Pereira and Texeira (2013) to Portugal has also recently been published.

In Spain, FACES IV has been tested using two different versions. In 2002, the first version was tested (Sanz, Iraurgi, & Martínez-Pampliega, 2002), but the difficulties found cast doubts on the construct validity of the instrument, and it was proposed that the instrument was not adapted to our culture. The second version of FACES IV was tested in 2010 (Rivero et al., 2010), with a sample of 455 participants. The analysis led to a brief version of 4 items per subscale with adequate fit to the theoretical model. The most important issues arose with the disengaged subscales and rigidity scales, which had positive correlations with family satisfaction, and led to considering the need for an internal study of the instrument about the conceptual equivalence of the constructs between the different cultures.

To sum up, in previous studies the validity of the short version of the Spanish FACES IV was analyzed (Sanz, Iraurgi, & Martínez-

Pampliega, 2002; Rivero et al., 2010), so the aim of this study is to analyze the validity of the whole Spanish FACES IV (42 items), after rewriting the items through the analysis of its internal validity, its concurrent validity with FACES II, its divergent validity with other family instruments and a discriminant analysis. The main hypothesis is that the Spanish version of the FACES IV would show adequate validity values as in the original version.

Method

Participants

There were 665 participants in the study. The participants were between 18 and 41 years old with a mean age of 21.67 years (SD = 2.85). There were 514 women (77.3%) and 133 (20%) were men. The participants were recruited among college students. The inclusion criterion was being 18 years old or older.

Instruments

*Background questionnaire.* A questionnaire collected the following background information about the participants: age, sex, parents' marital status, number of siblings, and cohabitation.

*Family Adaptability and Cohesion Evaluation Scale IV: FACES-IV.* This is the latest version of the FACES (Olson, 2011). As mentioned before, data supported a six-factor structure of the instrument, three scales for Cohesion (Enmeshed, Balanced Cohesion, Disengaged) and three for Flexibility (Chaotic, Balanced Flexibility, Rigid). This version is composed of 42 items about which participants rate their degree of agreement on a 5-point scale ranging from 1 to 5 (1 = *totally disagree* to 5 = *totally agree*). For example, the one item was: "We spend too much time together". The instrument has shown both content and concurrent validity and the scores showed adequate internal consistency values in the original American version (Enmeshed .77, Disengaged = .87, Balanced Cohesion = .89, Chaotic = .86, Balanced Flexibility = .84, Rigid = .82) (Olson, 2011). The reliability values of the scores of each scale in this study are presented in Figure 2.

*Family Adaptability and Cohesion Evaluation Scale II – FACES II.* In the present study, a reduced version of FACES II (Olson, Portner, & Bell, 1982) adapted by Martínez-Pampliega et al. (2006) was used: the *FACES-II-20-Esp* (Reduced Spanish Version). This version is composed of 20 items about which participants rate their degree of agreement on a 5-point scale ranging from 1 to 5 (1 = *never or hardly ever* to 5 = *always or almost always*). For example, the first item was: "The members of my family feel very close of each other". This scale was developed following a rigorous back-translation and empirical process and the reliability of the total scores was .90, the reliability of the scores of Cohesion scale was .89 and the reliability of the scores of the scale of Adaptability was .87, and concurrent and divergent validity were also adequate. Construct validity was supported by confirmatory factor analysis (Martínez-Pampliega et al., 2006).

*Family Communication Scale.* The Family Communication Scale (FCS) was designed to assess the third relevant variable in the Circumplex Model which is communication (Olson, 2000a). Specifically, it is a self-report instrument that measures satisfaction with family communication. It considers aspects such as freedom to exchange ideas, concerns, or the trust between parents and children. In this study, the Spanish version, reduced and adapted

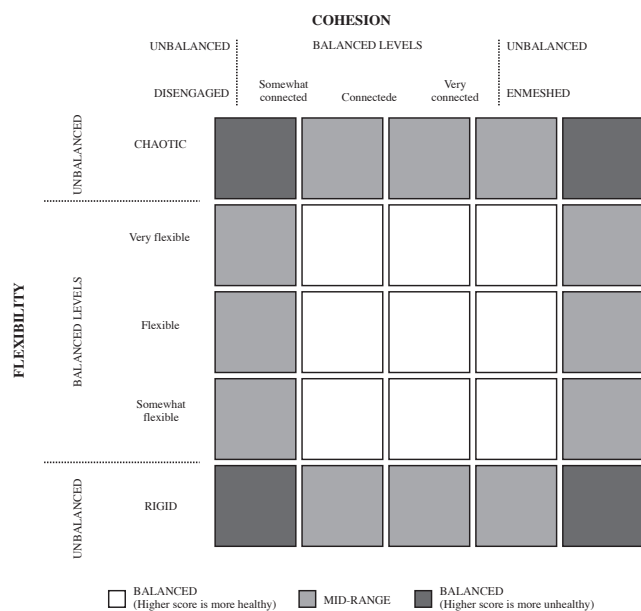


Figure 1. Circumplex Model (Olson, 2011)

by Sanz et al. (2002), was used. It comprises 10 items composing a single dimension about which participants rate their degree of agreement on a 5-point scale ranging from 1 = *strongly disagree* to 5 = *strongly agree*. For example, the first item is described like this “The members of my family are satisfied with the way of communication”. The reliability of the total score was .88 in the Spanish sample, and it had an adequate test-retest reliability ( $r = .88$ ). Construct and content validity were also supported by the results (Sanz et al., 2002).

**Family Satisfaction Scale.** This scale was developed to assess the degree of satisfaction of ten aspects of the family dynamics, five of them related to cohesion and another five related to flexibility (Olson, 2000a) In this study, the adapted Spanish version was used (Sanz et al., 2002). It includes 10 items which assess the satisfaction experienced by family members with regard to family cohesion and flexibility. There are 5 response options ranging from 1 = *very dissatisfied* to 5 = *very satisfied*. For example, the first item is described like this “The degree of closeness between the family members”. The reliability of the scores of the Spanish version was of .92, and adequate test-retest reliability ( $r = .95$ ). Construct and content validity were also supported by the results (Sanz et al., 2002).

**Family Strengths Scale.** This scale is a 12-item questionnaire that assesses the abilities and strength that a family has to face the stressing events (McCubbin, Olson, Larsen, Corcoran, & Fischer, 2000). Participants respond to on a 5-point scale from 1 to 5 (1 = *never or hardly ever* to 5 = *always or almost always*). This instrument assesses family resources on two dimensions: pride and accord. Pride measures loyalty, respect, and trust within the family. Accord measures the family’s sense of competence. For example, the first item is described like this “We can express our feelings”. The reliability of the scores of the Spanish version that was used in this study was .86 (Sanz et al., 2002). Content and construct validity have been also supported.

**Family Stress Scale.** This 20-item self-report scale assesses the degree of tension in different areas of family life (Olson, 2000b). People responded to on a 5-point scale from 1 to 5 (1 = *never or hardly ever* to 5 = *always or almost always*). One item was: “Arguments between parents and sons or daughters”. The reliability of the scores of this was .82 (the subscales ranged from .74 to .58) and a test-retest reliability of .87 ( $r = .63 - .80$  for subscales).

### Procedure

The sample was recruited from college students. To administer the instruments, the faculty deans of a University in Bilbao (Spain) approved the study. The participants were told about the voluntary nature of their participation, and the anonymity and confidentiality of their responses were guaranteed. The application of the instruments was collective, conducted during a regular university class where there were around 60 students per class. It lasted about 20 minutes and they were applied by researchers or research assistants.

### Data analyses

First, the factorial structure of the FACES IV was analyzed through confirmatory factor analysis (CFA) and following the diagonal weighted least squares robust method of parameter estimation. Three models were tested. These analyses were

carried out with Lisrel 8.80 software (Jöreskog & Sörbom, 1997). Therefore, the results of CFA were interpreted through the global fit of the model, considering five fit indices: the ratio of  $\chi^2$  and the degrees of freedom of the model, the root mean squared error of approximation (RMSEA), the non-normed fit index (NNFI), the comparative fit index (CFI) and the goodness of fit index (GFI).

The final factorial structure was determined, and descriptive statistics of the items and factors were calculated (mean, standard deviation, and skewness).

Internal consistency of the factors was analyzed through the construct reliability index and Cronbach’s alpha, and the amount of variance explained by each factor was also calculated with the average variance extracted (AVE).

Subsequently, concurrent and convergent / divergent validity of the FACES IV was calculated with Pearson’s correlation between the factors of the FACES IV and the FACES II (concurrent validity) and some family measures (convergent / divergent validity). Lastly, we studied the predictive validity through discriminant analysis according to specific instructions of Olson (2011).

## Results

The descriptive results contained in Table 1 show that the participants obtained the highest means in Cohesion and the lowest means in the Enmeshed and Chaos scales. Regarding the reliability of the factors, three of them scored higher than the criterion of .70 (Cohesion, Disengaged, and Rigid) and two of the factors had scores very close to .70 (Flexibility  $\alpha = .67$ , Chaos = .68). Factor 4, Enmeshed, had the lowest reliability  $\alpha = .63$ .

First, a unifactorial structure was analyzed, but the CFA did not produce adequate fit, none of the assessed indexes met the criteria for a good fit,  $\chi^2(819) = 4574.44$ ,  $p < .001$ ;  $\chi^2/df = 5.59$ , RMSEA = .110, 90% CI [.108, .113], CFI = .84, NNFI = .82, GFI = .65.

Then, the original six-factor structure (Cohesion, Flexibility, Disengaged, Enmeshed, Rigid, and Chaotic) proposed by Olson, Gorall, & Tiesel (2006) was analyzed. All the fit indexes met established criteria, except for the NNFI, which did not reach the value of .90:  $\chi^2(804) = 3037.76$ ,  $p < .001$ ;  $\chi^2/df = 3.78$ , RMSEA = .069, 90% CI [.066, .071], CFI = .91, NNFI = .88, and GFI = .81.

This final model is represented in Figure 2, showing the construct reliability and the AVE of each factor. This final model shows the 6-factor structure for the 42 items representing the scales that belong to the Cohesion (Enmeshed, Balanced Cohesion, and Disengaged) and Flexibility (Chaotic, Balanced Flexibility, and Chaotic) dimensions of the FACES IV.

Figure 2 also shows the factor loadings, revealing an unequal loading pattern of the factors, as they ranged between .19 (Enmeshed Factor) and .45 (Balanced Cohesion Factor). The remaining factors had very similar loadings, around .30 (Balanced Flexibility AVE = .30; Disengaged AVE = .31; Rigid AVE = .28; and Chaotic AVE = .26).

All the correlations between all the scales of FACES IV are shown in Table 2. Similarly to the original adaptation of the FACES IV (Olson, 2011), Balanced Cohesion had a strong negative correlation with the Disengaged Scale ( $r = -.82$ ) and a lower negative correlation with the Enmeshed Scale ( $r = -.31$ ). The same was observed with the Flexibility Scales, as Balanced Flexibility had a moderate negative correlation with the Chaotic Scale ( $r = -.55$ ) but a much lower negative correlation with the Rigid Scale ( $r = -.10$ ).

*Table 1*  
Item distribution in the Spanish version of the FACES IV

Item nr.	M	SD	$\alpha$	Sk	Item nr.	M	SD	$\alpha$	Sk
<b>Cohesion</b>					<b>Enmeshed</b>				
	24.44	4.81	.84	-0.47	4	14.55	3.90	.63	0.43
1	3.49	0.92		-0.60	10	1.70	0.90		1.19
7	3.97	0.93		-0.88	16	2.31	1.04		0.41
13	3.97	0.88		-0.79	22	1.60	0.93		1.61
19	3.63	1.04		-0.67	28	1.86	0.98		0.98
25	3.56	0.96		-0.68	34	2.71	1.07		0.11
31	3.62	0.95		-0.65	40	2.30	1.12		0.51
37	3.80	1.03		-0.71					
<b>Flexibility</b>					<b>Rigid</b>				
	22.79	4.28	.67	-0.20	5	17.39	4.42	.72	0.22
2	3.61	1.27		-0.58	11	2.24	1.05		0.47
8	3.30	0.86		-0.35	17	3.12	1.08		-0.28
14	3.76	0.97		-0.69	23	2.22	1.04		0.47
20	3.72	0.83		-0.57	29	2.26	0.98		0.33
26	3.07	1.02		-0.05	35	2.30	0.99		0.39
32	3.14	1.01		-0.34	41	2.92	1.13		-0.10
38	3.71	0.90		-0.58					0.24
<b>Disengaged</b>					<b>Chaotic</b>				
	15.43	4.70	.76	0.59	6	15.02	4.48	.68	0.30
3	2.28	1.14		0.54	12	2.21	1.11		0.64
9	1.90	1.03		0.94	18	2.54	1.28		0.39
15	2.03	1.06		0.90	24	1.87	.93		0.95
21	2.05	0.92		0.69	30	2.27	1.08		0.33
27	2.27	1.12		0.51	36	2.45	1.21		0.41
33	2.74	0.97		0.08	42	2.26	1.06		0.49
39	3.15	1.07		-0.26					1.53

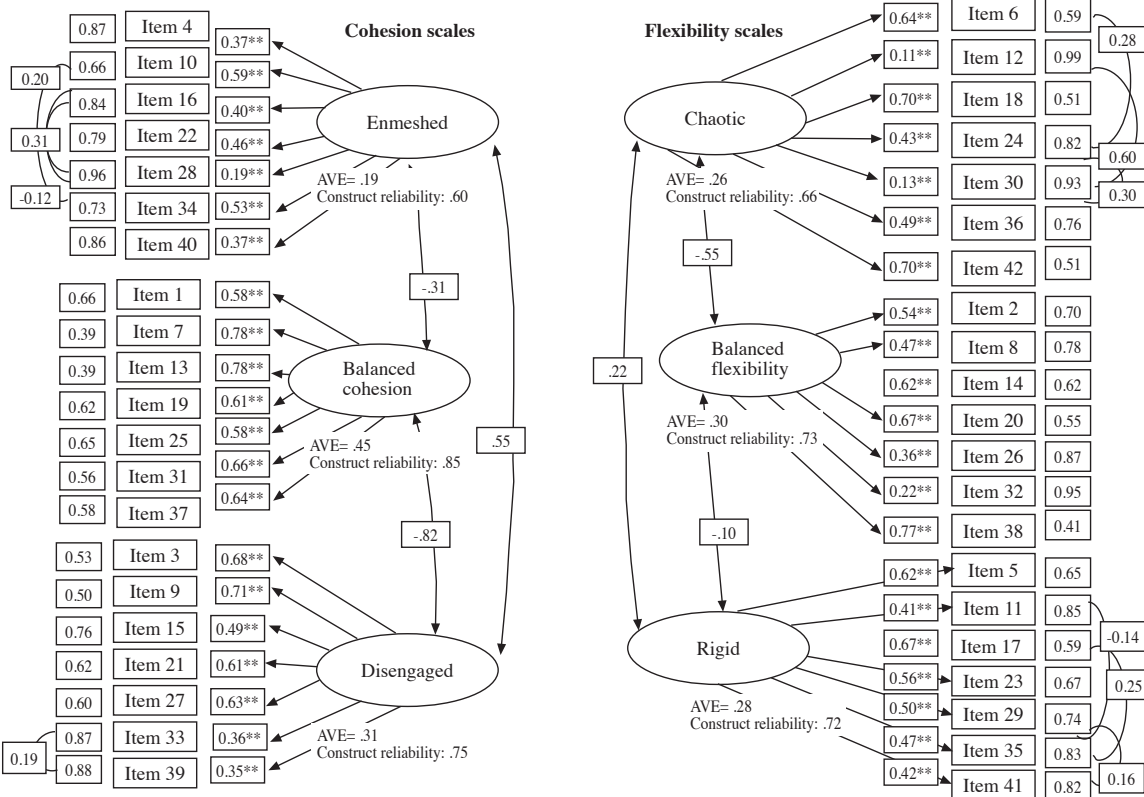


Figure 2. Final model with a 6-factor structure of FACES-IV. Correlations between factors are shown on Table 3. AVE = Average Variance Explained

The correlations between the factors of the different dimensions are shown in Table 3. Although the high and low extremes of Flexibility and Cohesion belong to different dimensions, they were moderately correlated (Disengaged and Chaotic  $r = .69$ ; Disengaged and Rigid  $r = .43$ ; Enmeshed and Chaotic  $r = .62$ ; Enmeshed and Rigid  $r = .69$ ). Regarding the high and low extremes of the same dimension, the Chaotic and Rigid Scales showed a low correlation ( $r = .22$ ) and this supports the independence of the two extremes of Flexibility, and the two extremes of Cohesion also showed a low correlation (Enmeshed and Disengaged  $r = .15$ ).

Regarding reliability, three factors had construct reliability higher than .70, and the reliability value of the Enmeshed, Balanced Flexibility, and Chaotic Scales was lower than .70 but higher than .60. Moreover, according to the AVE of each factor, the Balanced Cohesion, Balanced Flexibility, and Disengaged factors reached the highest value and Enmeshed had the smallest AVE.

the FACES-IV scales was 60.77% (range = 50.8–74.6%) and when all six scales were used in the analysis, the correct placement was 84.9% for the FSS (mean = 80.75 %, range = 77.9–84.9%). Using the total ratio score with the FCS, predictive accuracy was also higher than with the other methods, but using the FCS validation scale, the correct placement was the highest.

### Discussion

The aim of this study was to analyze the validity of the whole Spanish FACES IV (42 items), through the analysis of its internal validity, its concurrent validity with FACES II, its divergent validity with other family instruments and a discriminant analysis. The main hypothesis was that the Spanish version of the FACES IV would show adequate validity values as in the original version. The results of this study achieved a better fit of the model of the

Table 2  
Correlations between FACES-IV Factors and FACES-II Measures

FACES IV		FACES II Cohesion	FACES II Flexibility	FACES II Total	FACES IV Enmeshed	FACES IV Balanced Cohesion	FACES IV Disengaged	FACES IV Chaotic	FACES IV Balanced Flexibility
Enmeshed	<i>r</i>	-.02	-.08*	-.06					
	<i>p</i>	.667	.029	.114					
Balanced cohesion	<i>r</i>	.76**	.66**	.75**	-.31				
	<i>p</i>	.000	.000	.000	.000				
Disengaged	<i>r</i>	-.65**	-.50**	-.61**	.55	-.82			
	<i>p</i>	.000	.000	.000	.000	.000			
Chaotic	<i>r</i>	-.29**	-.18**	-.26**	.62	-.51	.69		
	<i>p</i>	.000	.000	.000	.000	.000	.000		
Balanced flexibility	<i>r</i>	.60**	.58**	.63**	-.29	.89	-.67	-.55	
	<i>p</i>	.000	.000	.000	.000	.000	.000	.000	
Rigid	<i>r</i>	-.16**	-.25**	-.21**	.69	-.18	.43	.22	-.10
	<i>p</i>	.000	.000	.000	.000	.000	.000	.000	.000

In the assessment of convergent validity (Table 2), we note the relationship between Balanced Flexibility of FACES IV and Flexibility of FACES II ( $r = .58$ ), as well as the relationship between Balanced Cohesion of FACES IV and Cohesion of FACES II ( $r = .76$ ). Also the unbalanced scales showed moderate correlations with FACES II in the expected direction. Only the Enmeshed Scale did not correlate with Cohesion in FACES II. In the case of concurrent validity, high correlations between FACES II Total with the balanced scales of FACES IV were obtained (Balanced Flexibility,  $r = .63$  and Balanced Cohesion,  $r = .75$ ).

The FACES IV scales have also shown consistent correlations with other family measures such as family stress, communication, satisfaction, and resources (Table 3).

Table 4 shows the predictive validity of the FACES-IV. The grouping methods that produced the highest discrimination were the upper versus lower 40% on the FCS and FSS validation scales. However, comparing these two methods, the highest percentage of accuracy in discriminating groups was found to be the upper versus lower 40% both on the FSS and the FCS, being slightly higher in the FCS. With this method, the mean percentage of accuracy for

Table 3  
Correlations between FACES-IV and Family Stress, Communication, Satisfaction and Resources

FACES IV		Stress	Communication	Satisfaction	Resources
Enmeshed	<i>r</i>	.09	-.02	-.01	-.08
	<i>p</i>	.076	.733	.858	.103
Balanced cohesion	<i>r</i>	-.36**	.74**	.72**	.67**
	<i>p</i>	.000	.000	.000	.000
Disengaged	<i>r</i>	.39**	-.52**	-.55**	-.47**
	<i>p</i>	.000	.000	.000	.000
Chaotic	<i>r</i>	.28**	-.16**	-.20**	-.21**
	<i>p</i>	.000	.001	.000	.000
Balanced flexibility	<i>r</i>	-.34**	.61**	.66**	.59**
	<i>p</i>	.000	.000	.000	.000
Rigid	<i>r</i>	.11*	-.17**	-.13**	-.12*
	<i>p</i>	.039	.001	.009	.017

Table 4

Discriminant Analysis of Problematic and Non-Problematic Families, according to the Family Communication Scale and the Family Satisfaction Scale (reported Percentage of Accuracy in discriminating Groups)

	FSS 50% GR1 N = 349 GR2 N = 307 (Upper/ Lower)	FSS 40% GR1 N = 271 GR2 N = 307 (Upper/ Lower)	FCS 50% GR1 N = 369 GR2 N = 296 (Upper/ Lower)	FCS 40% GR1 N = 295 GR2 N = 296 (Upper/ Lower)
Unbalanced scales				
Disengaged	71.3%	75.8%	71.3%	74.6%
Chaotic	58.0%	59.2%	58.6%	60.2%
Enmeshed	51.6%	51.4%	50.2%	50.8%
Rigid	54.9%	55.0%	57.3%	57.5%
Balanced scales				
Cohesion	74.1%	81.1%	73.8%	75.3%
Flexibility	74.0%	76.8%	68.3%	72.4%
6 Scales together	78.8%	84.9%	77.9%	81.4%
Ratio scores				
Circumplex Total	73.1%	77.2%	72.6%	76.1%
Cohesion ratio	73.1%	75.4%	78.8%	75.3%
Flexibility ratio	69.6%	70.6%	73.7%	70.1%
FACES 20-Spain	81.5%	84.9%	80%	84.3%
Cohesion	77.9%	80.4%	73.8%	81.0%
Flexibility	78.2%	81.3%	69.5%	77.5%
Communication	79.5%	83.2%	NA	NA
Satisfaction	NA	NA	79.1%	82.2%

Note: FSS = Family Satisfaction Scale; FCS = Family Communication Scale; GR 1 = Group of Non-Problematic Families, GR 2 = Group of Problematic Families

Spanish FACES IV, showing the validity of the instrument in its full version as a multidimensional instrument, whose central dimensions—cohesion and flexibility—are captured by the six scales, three for Cohesion and three for the Flexibility.

In the study, parallel methodology to that applied in the validation study of the author (Olson, 2011) was used, and his guidelines were followed.

First, the 6-factor structure was confirmed, the fit indexes very similar to those obtained by authors and most of the items had an acceptable loading on the dimensions, with the exception of 4 items (Items 28, 12, 30, and 32), whose loading was less than desirable. These items correspond to different subscales (Enmeshed, Chaotic, Flexibility) and it will be necessary to analyze their functioning in detail in subsequent studies.

Therefore, this revised Spanish version of the instrument with the reformulated items, better assesses the Circumplex model and have a more robust structure. Although the structure was previously confirmed (Rivero et al., 2010), this was only achieved after an analysis discarded some of the items, which meant a loss in cross-cultural comparison, something that did not occur in this current study. Comparing the European validation studies, we observe that the reliability is higher than that obtained in the Greek, Hungarian, and Italian versions, and very similar to the Portuguese version.

In accordance with our expectations, convergent validity was revealed through the correlation between the central scales of FACES IV and the subscales of FACES II, as well as between both scales as a whole. As hypothesized, the Balanced scales of FACES IV overlap with the FACES II scales.

As anticipated, the correlations found between the scales of FACES IV and the 4 extreme dimensions are lower and negative. Likewise, concurrent validity has also been revealed through the correlations found between the 6 subscales and the scales of Family Stress, Family Satisfaction, Family Communication, and Family Resources. Focusing exclusively on the dimension of Family Satisfaction, as it is the same instrument as that employed by authors in the validation study of the FACES IV, we see that the correlations are consistent. As in the original study, the Rigidity and Enmeshed Scales present the lowest correlations, which seem to suggest that they are not being perceived as being as dysfunctional as the dimension of Disengaged or Chaotic, which has also been observed in the Portuguese version (Pereira & Teixeira, 2013). This assessment is supported by the significant correlation between the Rigidity and Enmeshed Scales (.69), a finding observed in other versions, such as the Portuguese and the Greek (Koutra et al., 2013), where significant correlations of .36 and .47, respectively, were found.

Following the instructions given by authors (2011) the three ratios (Cohesion, Flexibility, and Total Circumplex) were calculated and they support the hypothesis of the curvilinearity of the model.

It is relevant to point out that, among the 6 scales of the FACES IV, Enmeshed and Rigidity have the lowest discriminant capacity. However, the dimensions of Cohesion and Flexibility allow to determine the level of functionality of a family system (healthy or unhealthy).

In summary, the FACES IV in Spanish sample has proven to be a valuable tool to analyze family functioning multidimensionally, where it can be used both for counseling and research purposes.

In contrast to previous versions, this instrument has shown much more robust psychometric characteristics, and its cross-cultural nature has been supported by results that are consistent with the original studies and the adaptations made in recent versions in some European countries (Greece, Hungary, Italy, Portugal, Poland). All this favors the international viability of FACES IV as previously indicated by Mirnic et al. (2010).

There are two major limitations in the study, the first related to the size and the characteristics of the sample and the second to the design of the study. Regarding the first limitation, we note the scarce representativeness of the sample. A convenience sample of youths from a normalized population does not allow generalization of the results, which is essential when referring to the validity of the instrument. Adding new samples of different ages, from different family structures, different contexts, with diverse associated problems, both from clinical and normalized populations, would allow verifying the variability of the scores and the generalization of the instrument.

As a future line of research we plan to carry out longitudinal studies instead of cross-sectional ones. This would allow the analysis of the variability of the measures associated with the evolutionary development of the families and which would provide national standardized norms.

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