Originals

Ch. Spielberger² G. Buela-Casal¹ D. Agudelo¹ H. Carretero-Dios¹ F. Santolaya³ Analysis of convergent and discriminant validity of the Spanish experimental version of the State-Trait Depression Questionnaire (ST-DEP)

 ¹ University of Granada
² University of South of Florida Tampa (USA)
³ University Hospital of the Malvarrosa Valencia. Spain

Introduction. This article reports data on the convergent and divergent validity of the Spanish adaptation of Spielberger's State-Trait Depression Questionnaire (ST-DEP). This questionnaire is a new tool because it offers an alternative to the obstacles found in most of the depression assessment scales that are differentiated in the content they evaluate and their estimation of depression levels.

Methodology. The present study was carried out with a sample of 300 participants (103 males and 197 females), with mean age of 21.82 (2.74 s.d.) for males and 22.26 (3.66 s.d.) for females. All participants received information about the investigation and participated voluntarily.

Results and conclusions. The results indicate high and significant correlations of the Spanish ST-DEP scales with other depression measures (BDI, BDQ-R), thus showing the convergent validity of this questionnaire. Highly significant correlations between the Spanish ST-DEP and the State-Trait Anxiety Inventory (STAI) also appear, confirming that reported about the comorbidity between both disorders and the high scores in anxiety that subjects with depression have. In contrast, correlations with the State-Trait Anger Expression Inventory (STAXI-2) were low and nonsignificant in most cases, which demonstrated the divergent validity of the ST-DEP.

Key words:

Depression. ST-DEP. Convergent validity. Discriminant validity. Assessment.

Actas Esp Psiquiatr 2005;33(6):374-382

Análisis de validez convergente y discriminante de la versión experimental castellana del Cuestionario de Depresión Estado-Rasgo (ST-DEP)

Introducción. El presente trabajo presenta las evidencias de validez convergente y discriminante de la

Correspondence: Gualberto Buelo-Casal Facultad de Psicología Universidad de Granada 18012 Granada. Spain E-mail: gbuela@ugr.es Versión Experimental Castellana del Cuestionario de Depresión Estado-Rasgo (ST-DEP). Este cuestionario se ofrece como una herramienta novedosa puesto que ofrece una alternativa a la mayoría de las escalas utilizadas para evaluar depresión, las cuales difieren en los contenidos que evalúan y en la estimación de los diferentes niveles de depresión.

Metodología. El estudio se realizó con 300 sujetos adultos jóvenes (103 hombres y 197 mujeres). La media de edad fue de 21,82 y la desviación típica fue de 2,74 para los hombres y de 22,26, con una desviación típica de 3,66 para las mujeres. Los participantes recibieron información acerca de la investigación y participaron voluntariamente.

Resultados y conclusiones. Los resultados indican altas y significativas correlaciones del ST-DEP con las medidas de depresión (BDI y CBD-R), mostrando así la validez convergente del cuestionario. También aparecen altas y significativas correlaciones con el STAI, confirmando lo reportado acerca de la comorbilidad entre ambos trastornos y las altas puntuaciones en ansiedad que presentan en sujetos con depresión. Por su parte, las correlaciones con el STAXI-2 fueron bajas y en la mayoría de los casos no significativas, lo cual evidencia la validez divergente del ST-DEP.

Palabras clave:

Depresión. ST-DEP. Validez convergente. Validez discrimante. Evaluación.

INTRODUCTION

Depression and anxiety have traditionally been characterized by the overlapping of many of their symptoms, which complicates the differential diagnosis of both pictures. Thus, for example, it is estimated that approximately 29 % of patients with major depressive episode diagnosis have anxiety symptoms equivalent to those presented by patients with panic attack¹. This fact highlights the importance of conducting clear and effective assessment processes, even more so when, in the case of depression, one is faced with one of the most complex and heterogeneous disorders in the presence of signs and symptoms². However, as has been stated in different studies^{1,3-6}, the number of tests available to assess depression is quite extensive and varied, in regards to inequality of the symptoms considered, which increases the difficulty to differentiate the characteristic symptoms of this disorder and to establish a differential diagnosis with other disorders, for example, with anxiety. One of the most frequent criticisms in the assessment of depression is overestimation of certain symptoms versus others. With this, it would seem that what is measured is that which each questionnaire considers as characteristic of depression, and there is rarely total coincidence between them, so that the risk of imprecise diagnoses increases^{7,8}. For example, the somatic symptoms that generally occur frequently in depression may also appear in anxiety and other disorders, but they may also make up a clinical picture by themselves. This is the case of eating behavior or sleep disorders, which increase the assessment complexity. In the same sense, and in spite of the fact that they are traditionally considered excluding, there are pictures, such as, for example, dementias, and especially Alzheimer's dementia, in which there is an increasingly greater concomitance between depressive symptoms and symptoms characteristics of this important and degenerative cognitive deterioration that is of concern, above all, in regards to the performance of a differential diagnosis^{9,10}.

Another aspect related with the assessment of depression refers to severity. Regarding this point, authors such as Berndt¹¹ question the specific efficacy of Beck's Depression Inventory (BDI) (considered as the instrument of greatest clinical use) to assess less severe feelings of depression. This is a very important point since the BDI is a very frequently used measure in the normal population. However, Ritterband and Spielberger¹², Vázquez and Sanz¹³ and Sanz and Vázquez¹⁴ indicate the usefulness of it with subclinical populations. These data are relevant regarding the need to differentiate different levels of involvement in subjects with depression and also when trying to differentiate between the clinical and normal population.

Regarding the differences between the measurements of severity versus frequency of occurrence, the measurements of depression used often confuse these two aspects, both in the formulation of the items and in the assessment scales of the subjects' responses. This makes it more difficult to conduct a clear and precise diagnosis of this disorder.

The previous elements sufficiently support the need for precise and reliable tools that improve the assessment of depression and make it possible to adjust to the characteristics of this important clinical disorder^{15,16}. Ritterband and Spielberger¹² and Spielberger¹⁷ designed the State-Trait Depression Questionnaire (ST-DEP) in this sense. This questionnaire offers a measurement of one of the components considered by different authors as constitutive of depression: affectivity^{18,19}, thus responding to the subject of the specificity of the tests. The questionnaire contains one Trait scale and another State one. It attempts to respond to the question of the differential assessment of frequency and severity. Each scale contains two subscales, one called Dysthymia (negative affectivity) and the other, Euthymia (positive affectivity). The inclusion of items evaluating positive affectivity (Euthymia) corresponds to the observations made by Ritterband and Spielberger¹², Spielberger, Ritterband, and Reheiser and Bruner²⁰ in regards to the usefulness of these types of items to detect low levels of involvement that would be more difficult to identify with the traditional instruments. Therefore, the ST-DEP offers an alternative to the assessment of depression capable of identifying subtle changes in involvement in both the clinical population and subclinical samples, as it identifies one of the depression components that has been mentioned in other studies as important within depression, as the affective component.

The adaptation and validation studies of the State-Trait Depression Questionnaire (ST-DEP) with the Spanish population have been conducted with international standards for test design (American Educational Research Association, American Psychological Association and National Council on Measurement in Education²¹ and Eignor²²). They are reported in different preliminary studies that show adequate psychometric properties of the questionnaire^{8,12,17,20,23}.

In order to supply new data on the validity of the ST-DEP, this present study has aimed to make known the convergent and discriminant validity data of the new experimental version of the ST-DEP, that is, with the items selected after the analysis of items and factorial analysis performed by Spielberger, et al.²⁴ and Agudelo, et al.²⁵. With this, an attempt has been made to demonstrate the qualities of the test to assess negative affectivity of depression.

METHOD²⁶

Participants

The sample was made up of 300 young adults (103 men and 197 women) who were university students. Mean age for women was 21.82 (standard deviation: 2.74) and for men 22.26 (standard deviation: 3.66).

Study type

The present study is an instrumental one according to the classification proposed by Montero and León²⁷. The methodological criteria followed are those suggested by the Official Association of Psychologists of Spain and the International Test Committee (ITC)²⁸ for the construction, adaptation and use of measurement test and standards for the development and use of test and guidelines of the American Educational Research Association, American Psychological Association and National Council on Measurement in Education²¹ and Eignor²², in regards to the development and use of the tests.

Instruments

In the investigation, in addition to the Spanish Experimental Version of the State-Trait Depression Questionnaire (ST-DEP) described in the following, the Beck Depression Inventory (BD), revised version²⁹, according to the validation data present in different studies^{3,5,13,14,29-32}; the Basic Depression Questionnaire (BDQ-R)⁴; the State-Trait Anxiety Inventory (STAI)³³, according to the validity data indicated³⁴⁻³⁹ and the State-Trait Anger Expression Inventory (STAXI-2)⁴⁰ whose validity evidence is presented in different studies¹²⁻⁴⁰⁻⁴¹ are described.

Spanish Experimental Version of the State Trait Depression ST-DEP assessment^{8,23}

Test specifications

- Objective. Identify the degree of involvement (state) and occurrence frequency (State) of the affective component of depression.
- Content area. Degree of presence of negative affectivity (Dysthymia) and positive affectivity (Euthymia).
- *Dysthymia State.* Degree in which a state of negative affectivity is present at time of evaluation.
- Euthymia State. Degree in which positive affectivity is present at time of evaluation.
- *Dysthymia Trait.* Frequency of presence of negative affectivity.
- Euthymia Trail. Frequency of presence of positive affectivity.
- Instructions. In the State scale (S-DEP), the subject is asked to circle the option that is closest to how he/she feels at this moment. The response options indicate intensity as follows: 1) none; 2) some; 3) a lot, and 4) much.

In the Trait scale (T-DEP), compared to the same statements on the State scale, the subject is asked to answer by circling the option that is closest to how he/she feels generally, most of the time. In this case, the response options measure frequency: 1) almost never; 2) sometimes; 3) often, and 4) almost always.

To obtain the scores of the subject evaluation, the response option chosen (1, 2, 3 or 4) was equal to the score assigned for the case of the items referring to dysthymia on both Scales. For the case of the euthymia items, the score is the opposite, as follows: 1 = 4, 2 = 3; 3 = 2 and 4 = 1. The fi-

nal score is obtained by adding the results of the two subscales and can be between 26 and 104.

Specification of the items

The experimental version resulting from the analysis of the items performed in the Spielberger et al. study²⁴ is made up of 16 items for each Scale, 8 of which measure Dysthymia and 8 Euthymia. Operatively, dysthymia and euthymia are defined in the following, indicating the number of items corresponding with each component in parenthesis.

- Dysthymia State. A total of 8 items: not being motivated by anything (1), feeling gloomy (2), feeling down (3), to not feel like doing anything (4), feeling miserable (5), feeling depressed (6), hopelessness (7) and sadness (8).
- Euthymia State. A total of 8 items: wholeness (1), feeling good (2), hopefulness (3), vivacious (4), content (5), doing things that make you feel good (6), excited (7), energetic (8).
- Dysthymia Trait. A total of 8 items: not being motivated by anything (1), feeling unfortunate (2), unhappiness (3), feeling down (4), to not feel like doing anything (5), weakness (6), feeling depressed (7) and sadness (8).
- Euthymia Trait. A total of 8 items: Enjoy life (1), wholeness (2), excited (3), luckiness (4), hopeful (5), happy (6), doing things that make you feel good (7) and energetic (8).

Procedure

The questionnaires were administered to the participants in the classrooms, after they had been given information on the study and had accepted to participate voluntarily. Standard instructions were given to them collectively by the same investigators. After, the respective statistical analyses were performed, using the SPSS 11,0 statistical package (Statistical Package for the Social Sciences). The psychometric procedures are governed by the guidelines proposed by the Official Association of Psychologists and International Committee of Test (ICT)²⁸ and the rules of the American Educational Research Association, American Psychological Association and National Council on Measurement in Education²¹ and Eignor²².

RESULTS

The results obtained regarding the correlations obtained between ST-DEP and the other measurements used in the study are presented in the following, differentiating the data for the State and Trait Scales, both item by item as well as for the total of the Dysthymia and Euthymia subscales and differentiated by gender. Ch. Spielberger, et al.

State scale (S-DEP)

Tables 1 and 2 collect the correlations of the S-DEP items both in the Dysthymia and Euthymia subscales with the BDI, STAI-S and STAXI-2 state scale for the total of the gender differentiated scale. According to the results, it can be observed, as was expected, that the correlations between BDI and S-DEP are highly significant (p < 0.001), these being higher in the case of women. In regards to the STAI-S, as with the BDI, it should be stated that the highest correlations in most of the items are observed in the case of women, with values from 0.47 to 0.66 (r = 0.58) in the Dysthymia subscale, while the values for men on the same subscale are between 0.44 and 0.68 (r = 0.54). The correlations in the Euthymia subscale are similar between men and women, ranging from -0.36 and -0.66 (r = 0.40) and -0.40 and -0.62 (r = 0.42), respectively.

When the correlations between the items of the S-DEP and STAXI-2 Anger State scale (feeling of anger, physical

expression of anger and verbal expression of anger) are analyzed, it is found that the correlations are greater for women, both in the subscales as well as in the total scale of Anger State. However, they are significant in fewer cases than in regards to BDI and STAI-S, except in the total scale where the correlations for women are highly significant (between 0.32 and 0.52; R = 0.43).

On its part, table 3 shows the correlations of the total of the S-DEP dysthymia and euthymia scales, with the totals of the other scales used, for the gender differentiated sample. The results regarding the total subscales (Dysthymia and Euthymia) go in the same direction as that observed regarding the item by item analysis, these being higher in women for both the BDI and STAI-S. However, in the latter, the values are equal between men and women in the euthymia subscale (-0.70). On its part, regarding the STAXI-2 state scale, the correlations are noticeably greater in women than men for the three subscales that

Table 1	able 1 Correlations of S-DEP (Dysthymia and Euthymia) with the BDI, STAI-S and STAXI-2 for men and women												
ltom		В	DI	ST	AI-S				State o	f anger			
item						Feel	ing P	hysical ex	pression	Verbal e	xpression	State o	of anger
		М	W	М	W	М	W	М	W	М	W	М	W
Disthymia													
		0.47**	0.64**	0.54**	0.60**	0.15	0.37**	-0.06	0.25**	-0.01	-0.29**	0.03	0.34**
l feel unmotivat	ed	0.59**	0.68**	0.60**	0.66**	0.29**	0.48**	0.07	0.32**	0.14	0.29**	0.20*	0.44**
l feel gloomy		0.56**	0.62**	0.57**	0.63**	0.22**	0.43**	0.07	0.38**	0.08	0.40**	0.17	0.44**
l fell down		0.56**	0.61**	0.45**	0.59**	0.26**	0.47**	0.28**	0.43**	0.30**	0.44**	0.33**	0.49**
l don't fell like d	loing												
anything	-	0.49**	0.51**	0.44**	0.54**	0.26**	0.36**	0.02	0.23**	0.05	0.27**	0.15	0.32**
I fell miserable		0.38**	0.53**	0.55**	0.54**	0.27**	0.34**	0.10	0.32**	0.05	0.36**	0.20*	0.37**
I am depressed		0.37**	0.51**	0.49**	0.47**	0.22*	0.48**	0.10	0.47**	0.12	0.42**	0.18	0.52**
I am hopeless		0.58**	0.64**	0.68**	0.62**	0.27**	0.49**	0.10	0.40**	0.15	0.39**	0.21*	0.49**
I am sad		0.47**	0.64**	0.54**	0.60**	0.15	0.37**	-0.06	0.25**	-0.01	- 0.29**	0.03	0.34**
Euthymia													
I feel whole/com	nplete	-0.46**	-0.63**	-0.60**	-0.61**	-0.15	-0.31**	-0.10	-0.21**	-0.01	-0.21**	-0.09	-0.28**
l feel good	r	-0.52**	-0.60**	-0.66**	-0.62**	0.21*	-0.37**	-0.02	-0.27**	-0.07	-0.33**	-0.12	-0.34**
l am hopeful ab	out												
the future		-0.43**	-0.53**	0.54**	-0.47**	-0.08	-0.25**	0.13	-0.23**	-0.11	-0.31**	-0.05	-0.29**
I am vivacious		-0.50**	-0.57**	-0.36**	-0.60**	-0.09	-0.41**	-0.31**	-0.26**	0.27**	-0.32**	-0.26**	-0.36**
I am content		-0.51**	-0.57**	-0.58**	-0.63**	-0.20*	-0.40**	-0.02	-0.26**	-0.04	-0.34**	-0.12	-0.35**
I do things that	make												
me feel good		-0.45**	-0.36**	-0.49**	-0.40**	-0.19**	-0.27**	-0.01	-0.15*	-0.04	-0.22**	-0.10	-0.23**
I am excited		0.43**	-0.51**	-0.59**	-0.59**	-0.08	-0.39**	0.01	-0.32**	-0.04	-0.35**	-0.03	-0.39**
I am full of energ	IY .	-0.49**	-0.58**	-0.56**	-0.54**	-0.17	-0.27**	0.05	-0.17*	0.01	-0.21**	-0.05	-0.24**

Actas Esp Psiquiatr 2005;33(6):374-382

Ch. Spielberger, et al.

Analysis of convergent and discriminant validity of the Spanish experimental version of the State-Trait Depression Questionnaire (ST-DEP)

												ST	AXI									
ltem	BI	5	CDO	4	STA	L-1			Anger 1	trait			An	ger exp	ression		Aı	ıger cor	itrol		AFI	
							Ten	.d	Read	Т	Anger	trait	Ext.	ш	Int. I		Ext. (Int. C			
	Σ	X	Σ	X	Σ	M	Σ	X	Σ	X	Σ	M	Σ	N	Σ	×	Σ	8	Z	×	Σ	N
Dysthymia																						
l am unmotivated	0.51**	0.58**	0.56**	0.55**	0.61**	0.66**	0.04	0.15	0.11	0.22**	0.10	0.22**	-0.01	0.03	0.30**	0.35** -	- 60.0	0.11 -0	17 -0	.11	.22* (0.22**
I feel unfortunate	0.46**	0.51**	0.58**	0.52**	0.51**	0.55**	0.06	0.23**	0.06	0.19**	0.07	0.24**	0.04	0.18*	0.30**	0.23** -	0.01 -	0.25** 0	.02 -0	.19 (.12 ().33**
I am unhappy	0.35**	0.40**	0.40**	0.42**	0.36**	0.35**	0.03	0.13	0.12	0.17*	0.10	0.18*	0.05	0.1'0	0.20*	0.20** -	0.07 -	0.20** 0	0- 60	.08	60.	0.22**
I feel down	0.39**	0.49**	0.34**	0.39**	0.53**	0.49**	0.03	0.15	0.22*	0.22**	0.16	0.22**	-0.06	0.15*	0.28**	0.24** -	0.02 -	0.15* -0	0-00	.11	.11	0.25**
I don't feel like doing											0.10	0.15*	0.02	0.12	0.29**	0.20** -	0.07 -	0.08 0	04 -0	.29 (.14).15 [*]
anything	0.38**	0.45**	0.50**	0.50**	0.50**	0.41**	0.09	0.12	0.07	0.15*	0.34**	0.16*	0.05	0.15*	0.29**	0.16* -	- 0.08	0.13 -0	-11	.26 (.21* ().17*
I feel weak	0.35**	0.58**	0.52**	0.43**	0.54**	0.50**	0.19	0.17**	0.35**	0.11	0.24*	0.16*	0.09	0.07	0.42**	0.08	0.03 -	0.18* 0	01 -0	.14* 0	.20* (J.19*
I am depressed	0.50	0.44**	0.70**	0.58**	0.59**	0.39**	0.18	0.16*	0.20*	0.12	0.22*	0.20**	0.07	0.10	0.20*	0.15* -	0.01 -	0.12 -0	13 -0	.07 0	.20* ().17**
I am sad	0.52**	0.45**	0.52**	0.46**	0.66**	0.49**	0.13	0.14*	0.22**	0.19**												
Euthymia											-0.14	-0.08	-0.12	0.10	0.22* -	0.25**	0.13 -	0.01 0	11 0	.02 -0	.24* –(0.05
I enjoy life	-0.43**	-0.51**	-0.36**	-0.39**	-0.50**	-0.57**	-0.14	-0.02	-0.09	-0.11	-0.18	-0.23**	0.06	-0.11	0.28** -	0.19**	0.03 -	0.15* 0	.15 0	.16* -0	.16 –(0.24**
I feel whole/complete	-0.44**	-0.64**	-0.37**	-0.55**	-0.54**	-0.66**	-0.10	-0.20**	-0.20*	-0.19**	-0.00	-0.22**	-0.05		0.17	0.14*	0.10	0.21** 0	01 -0	.19** -0	.13 –(0.24**
I am excited	-0.24**	-0.44**	-0.23**	-0.39**	-0.37**	-0.53**	-0.00	-0.15*	-0.01	-0.22**	-0.15	-0.10	-0.03	- 0.07	0.33** -	0.23**	0.09	0.08 0	26** 0	- 60	.29** –(0.17*
I feel lucky	-0.33**	-0.49**	-0.39**	-0.47**	-0.48**	-0.63**	-0.06	-0.07	-0.18	-0.11												
I am hopeful											0.01	-0.20**	0.00	-0.14 -	0.24* -	0.17*	0.14	0.16* 0	.16 0	.14* –0	.22** –(0.24**
about the future	-0.37**	-0.46**	-0.31**	-0.40**	-0.52**	-0.50**	0.05	-0.14	-0.03	-0.20**	-0.16	-0.16*	-0.11	- 0.07	0.38** -	0.12	0.05	0.17* 0	.12 0	-10	.26** -().18*
I am happy	-0.38**	-0.42**	-0.35**	-0.48**	-0.59**	-0.51**	-0.18	-0.16*	-0.09	-0.11												
I do things that make											-0.15	-0.05	-0.01	-0.02	0.23* -	0.20**	- 90.0	0.02 0	.15 0	-03	-18	0.08
me feel good	-0.37**	-0.22**	-0.35**	-0.27**	-0.48**	-0.27**	-0.11	-0.05	-0.13	-0.02	-0.07	-0.15*	0.01	-0.08	0.24* -	0.10	0.03	0.16* 0	20* 0	.18* -0	-18).21 ^{**}
I am full of energy	-0.40**	-0.54**	-0.44**	-0.44**	-0.64**	-0.52**	-0.02	-0.09	-0.09	-0.16*												
*p < 0.05; **p < 0.01; Af	El: anger e:	kpression	index; Ex	tt. E: exte	ernal exp.	ression of	f anger; l	nt. E: inn	er expres	sion of a	nger; Ext	. C: exter	nal contr	ol of ang	er; Int. C	: inner co	ontrol of	anger.				

Table 3	Correlati BDI, BDQ	ons total s R, STAI aı	cores ST-DI nd STAXI fo	EP (scales a r men and v	nd subescal women	es) with tot	al scales and	subscales:	
		S-Dyst	hemia	S-Eut	thymia	S-Dystl	hymia	S-Euth	ymia
	-	М	W	М	W	М	W	М	W
BDI BDQ-R		0.65**	0.77**	-0.60**	-0.69**	0.61** 0.73**	0.71** 0.69**	-0.53** -0.50**	-0.64** -0.58**
STAIT-S STAIT-T Anger state		0.69**	0.75**	-0.70**	-0.70**	0.76**	0.69**	-0.74**	-0.72**
Feeling of an Verbal expres Physical expre	ger sion of anger ession of anger	0.31** 0.14 0.11	0.55** 0.47** 0.45**	-0.18 -0.04 -0.03	-0.42** -0.36** -0.30**				
Anger trait						0.23*	0.27**	-0.15	-0.20**
Anger tempe Anger reactio	rament on					0.13 0.24*	0.22** 0.25**	-0.10 -0.14	-0.15* -0.19**
External express Inner expression External contro Inner control Anger index	sion 1 I					0.05 0.40** -0.09 -0.04 0.23*	0.16* 0.29** -0.22** -0.13 0.30**	-0.05 -0.38** -0.11 0.21* -0.30**	-0.08 -0.24** 0.16* 0.16* -0.24**
* p < 0.05; ** p < 0).01.								

make up the anger state measurement, being significant in all the cases for the women with values greater than -0.30 (table 1).

Trait Scale (T-DEP)

Table 2 shows the correlations of the items making up T-DEP with BDI, BDQ-R, STAI-T and the Trait, Expression of Anger, Control of Anger and index of Expression of Anger scale of STAXI-2, for the total of the gender differentiated sample. The data indicate that the correlation values between T-DEP and the other measurements used are quite similar between men and women. Regarding the BDI, it should be indicated that the correlations are almost all highly significant (p < 0.001). The high value of correlation found between the BDQ-R and T-DEP stands out. This indicates that both tests in the evaluation of the Trait dimension are quite reliable to measure the stability of the affective component of depression. In regards to the STAI-T, it should be stated that, as in the S-DEP, the correlations are highly significant, reinforcing the hypothesis of the high score in anxiety in subjects with depression. On its part, correlations with the STAXI-2 trait scales show high and significant values in many of the items, both for Euthymia and dysthymia. It should be mentioned that the STAXI-2, in addition to the Trait and state Scales, has two more scales, one of expression of anger and another of control of anger, and a general measurement (Index of Expression of Anger). Given that these scales evaluate frequency, it was decided to also use them as elements to compare the trait scale of the T-DEP in regards to divergent validity. In the case of the anger expression scale, the results show that the subscale that measures inner expression has greater and significant correlations (p < 0.001 and p < 0.05) in almost all the items, both for the dysthymia and euthymia subscale. On its part, the control of anger scale indicates that the correlations are negative, these being greater, although not significant, in all the items of the subscale of external control of anger for both subscales (Dysthymia and Euthymia). Finally, the Index of Expression of Anger showed significant correlations in many of the items, being relatively greater in the case of the women (table 2).

Finally, table 3 shows the correlations between the total scores of the Dysthymia and Euthymia subscales of the T-DEP with the other measurements used, differentiating by gender and once again indicating that the correlations are greater for both Dysthymia and Euthymia in regards to the measurements of depression and anxiety and less, as was to be expected, in regards to the measurements of Anger, also observing a tendency to greater correlations among the women.

When the correlations are compared between the measurements for both the S-DEP and T-DEP, it can be indicated that the values are greater with the depression tests and STAI, but lower for the T-DEP in regards to the anger scales and subscales (table 3).

DISCUSSION

The usefulness of a measurement instrument is given by its effectivity to evaluate the constructs it aims to measure. In this sense, it should differentiate them from those others that may be overlapping or that may have a close relationship. However, for the effect of the task of evaluation and diagnosis, these must be clearly differentiated.

The convergent validity studies aim to compare different instruments which, in principle, are considered to be close in regards to the construct they measure, so that the greater the correlations, the greater the convergent validity attributed to the instrument evaluated. On its part, what the discriminating validity seeks to measure is the capacity of an instrument to isolate the construct it aims to evaluate and not others, thus the values increase as the correlations become less. For this present study, it was decided to use two depression measurements to evaluate convergent validity: BDI and BDQ-R, the former due to its frequent use and greater distribution of the instrument regarding others seen by the number of citations it receives³⁰ and due to the findings of Ritterband and Spielberger¹² who hypothesize its utility to evaluate both trait and state of depression, even when it continues to be a somewhat confusing measure. The second one, the BDQ-R, was chosen as it was considered a measurement that follows the criteria hypothesized here on the importance that the different scales assess specific areas or aspects of the pictures they aim to evaluate. This is due to the great diversity of symptoms that may be considered characteristic of the different disorders, for example, depression. Thus, this questionnaire is based on the study of the covariation of three aspects of depression, considered by Peñate⁴ as those defining depression: anhedonia, sad affect and low self-esteem. Given the theoretical support on which the questionnaire is based, it is considered as a measure of trait, since it evaluates the frequency with which the symptoms occur. Thus, it was used to compare the items of the ST-DEP Trait scale.

As was to be expected, the results show greater correlations with the depression measurements. The data approach that found by Spielberger et al.⁸ in which the correlations between BDI and S-DEP were high and significant in every case. This corroborates the convergent validity of the S-DEP. However, when the results found are compared with the T-DEP scale, it is observed, as did Spielberger et al.²³, that the correlations are significant (p < 0.001) for the case of BDI. This newly indicates data that support the hypothesis of Ritterband and Spielberger¹² on the properties of the questionnaire to evaluate both State and Trait. However, and in spite of this, what is seen once again, as Spielberger et al.^{8,23} pointed out, is the impreciseness of the BDI, since it does not manage to separate one component from another in depression, even when Beck himself indicates that because of the instructions given and way the subject is questions, the questionnaire would be closer to the idea of Trait⁴². However, when the results are compared with those obtained with the BDQ-R, it is seen that the correlations with this measurement and T-DEP are greater than those observed with BDI. This is a good indicator of the convergent validity of T-DEP when compared with a measurement closer to the Trait, such as the BDQ-R.

On their part, the data found in relationship with the correlations of STAI with ST-DEP indicate high and significant correlations for both the Trait and State scale in every case (p < 0.001), even greater than those observed between the S-DEP and BDI and the T-DEP with the BDI and BDQ-R. This agrees with the sense of that expected30-33, according to which, subjects with depression tend to obtain higher scores on anxiety measurements than subjects with anxiety disorder. This datum confirms the capacity of the questionnaire to evaluate both intensity and degree of involvement of the affective component of depression, while corroborating the limitations of the BDI to precisely evaluate intensity, since it combines the evaluation of attributes close to trait^{14,18}.

The STAXI-2 was used to evaluate divergent validity, using the Anger State scale to compare it with the ST-DEP State scale and the Anger Trait scale, in addition to the scales of expression and control of anger and index of expression of anger, to compare it with the T-DEP. As was also predictable, the results indicate the presence of much lower correlations than those observed with the measurements of depression and the STAI. Regarding the S-DEP, it can be stated that the highest correlations (even when they continue to be low in comparison with those found with the BDI and STAI) are found with the subscale of feeling of anger. This may be related with that observed in the T-DEP when it is compared with the Anger Trait scale where the inner expression is the highest scale. This indicates, as Ritterbanb and Spielberger¹² anticipated, a greater tendency in the depressive subjects toward «repression» of anger. These data also suggest empirical support to that observed in clinical psychology regarding the relationship between depression and type C personality, characterized by tendency towards the non-expression of emotions. This is on the contrary to that found in type A personality and its link with stress and anxiety where the expression of emotions is aimed towards the outer world.

The results obtained support the discriminating validity of the test, because they indicate lower correlations that are often not significant between the S-DEP and STAXI-2 State scales. This could indicate that both negative and positive affectivity are differentiated from anger as an emotional state and only appear more correlated with the subscale of feeling of anger.

The previous data make it possible to suggest the evidence of convergent and divergent validity of ST-DEP as expected from the approach of the present study and according to the revision of the previous validation processes, both with the United States of America and Spanish population.

When analyzing the questionnaire's validity item by item, it is frequently possible that the correlations make it possible to eliminate some item where the values are not significant. However, the data found in this study do not justify, at least by psychometric criteria, exclusion of any of them. Furthermore, after a theoretical analysis, it is considered appropriate to conserve the items selected after the study of the analysis of items of Spielberger et al.²⁴, because it is considered that they are sufficient to evaluate the Dysthymia and Euthymia constructs and that they are representative of different degrees of involvement. This is fundamental if the scale aims to evaluate mild changes in affectivity and to differentiate the clinical population form the normal one.

The data collected make it possible to corroborate convergent and discriminating validity of the ST-DEP as a measurement capable of differentiating the affective component from depression as State and Trait from other attributes of depression and other psychological disorders. This supposes a very useful contribution to the diagnostic differentiation. In the same way, when discriminating different degrees of involvement, it is a useful tool to differentiate clinical from normal population and within the clinical population, of distinguishing between different degrees of involvement, thus contributing to the availability of a questionnaire whose utility will not only be clinical but also of investigation.

Other studies still must be performed with different samples, among them with a clinical sample, which make it possible to corroborate the findings discovered through the first validation studies with Spanish samples.

REFERENCES

- Ninan P, Berger, J. Symptomatic and syndromal anxiety and depression. Depress Anxiety 2001;14:79-85.
- Fernández Prieto M, Goncalves OF, Buela-Casal G, Machado PP. Análisis comparativo del estilo atribucional y de la autoestima en una muestra de pacientes depresivos y sujetos normales (in press). Actas Esp Psiquiatr 2004;32:259-263.
- Friedman ES, Thase ME. Trastornos del estado de ánimo. En: Caballo V, Buela-Casal G, Carrobles JA, editores. Manual de psicopatología y trastornos psiquiátricos. Madrid: Siglo XXI, 1995; p. 619–81.
- Peñate W. Presentación de un cuestionario básico para la evaluación de los síntomas genuinos de la depresión. Anal Modif Cond 2001;27:671-9.
- Sanz J, Navarro ME, Vázquez C. Adaptación española del Inventario para la Depresión de Beck-II (BDI-II): 1. Propiedades psicométricas en estudiantes universitarios. Anal Modif Cond 2003;29:239-88.
- Snaith P. What depression rating scales measures? Br J Psychiatry 1993;163:293-98.
- 7. Peñate Castro W, Perestelo Pérez L, Bethencourt Pérez JM. La predicción diferencial del nivel de depresión por las variables

nivel de actividad, actitudes disfuncionales y estilo atributivo en función de la puntuación y la medida de depresión utilizada. Int J Clin Health Psychol 2004;4:27-53.

- Spielberger CD, Carretero-Dios H, de los Santos-Roig M, Buela-Casal G. Spanish experimental version of the state-trait depression questionnaire (ST-DEP): state sub-scale (S-DEP). Rev Int Psicol Clin Salud/Int J Clin Health Psychol 2002;2:71-89.
- 9. Arango Lasprilla JC, Fernández Guinea S. Depresión en la enfermedad de Alzheimer. Rev Latin Psicol 2003;35:41-54.
- Barjau Romero BJ, Guerro-Prado D, Viloria Jiménez A, Vega-Piñero M, Chinchilla Moreno A. Pseudodemencia depresiva: fronteras diagnósticas. Actas Esp Psiquiatr 2002;30:43-53.
- Berndt DJ. Depressive disorders: facts, theories, and treatment methods. En: Wolman BB, Stricker G, editores. International Encyclopedia of Psychiatry, Psychoanalysis and Neurology. Oxford: Wiley and Sons, 1990.
- 12. Ritterband LM, Spielberger CD. Construct Validity of the Beck Depression Inventory as a measure of state and trait depression in nonclinical populations. Depress Stress 1996;2:123-45.
- Vázquez C, Sanz J. Fiabilidad y valores normativos de la versión española del Inventario para la Depresión de Beck de 1978. Clin Salud 1997;8:403-22.
- 14. Sanz J, Vázquez C. Fiabilidad, validez y datos normativos del Inventario para la Depresión de Beck. Psicothema 1998;10:303-18.
- Lara MA, Navarro C, Mondragón L, Rubí NA, Lara MC. Validez y confiabilidad del MHI-5 para evaluar la depresión de mujeres en primer nivel de atención. Salud Mental 2002;25:13-20.
- Reyes-Ortega M, Soto-Hernández AL, Milla-Kegel JG, García-Ramírez A, Hubard-Vignau L, Mendoza-Sánchez H. Actualización de la Escala de Depresión del Centro de Estudios Epidemiológicos (CES-D). Estudio piloto en una muestra geriátrica mexicana. Salud Mental 2003;26:59-68.
- Spielberger CD. Evaluación de la depresión: Eutimia y Distimia. Conferencia presentada en el Symposium Internacional sobre Depresión. Granada (España), 1999.
- Dowd ET. Depression: theory, assessment and new directions. Int J Clin Health Psychol 2004;4:413-23.
- Robles R, Páez F. Estudio sobre la traducción al español y las propiedades psicométricas de las escalas de afecto positivo y negativo (PANAS). Salud Mental 2003;26:69-75.
- Spielberger CD, Ritterband L, Reheiser E, Brunner T. The nature and measurement of depression. Rev Int Psicol Clin Salud/Int J Clin Health Psychol 2003;3:209–34.
- American Educational Research Association, American Psychological Association and National Council on Measurement in Education. Standards for educational and psychological testing. Washington: American Psychological Association, 1999.
- Eignor D. Standards for the development and use of test: the standards for educational and psychological testing. Europ J Psychol Assesm 2001;17:157-63.
- Spielberger CD, Carretero-Dios H, de los Santos-Roig M, Buela-Casal G. Spanish experimental version of the state-trait depression questionnaire (ST-DEP): trait sub-scale (S-DEP). Rev Int Psicol Clín Salud/Int J Clin Health Psychol 2002;2:51-69.
- 24. Spielberger CD, Agudelo D, Carretero-Dios H, de los Santos-Roig M, Buela-Casal G. Análisis de ítems de la versión experimental

castellana del cuestionario para la depresión Estado-Rasgo (ST-DEP), (en prensa). Anal Modif Cond 2004;30.

- 25. Agudelo D, Carretero-Dios H, Blanco Picabia A, Pitti C, Spielberger Ch, Buela-Casal G. El componente afectivo de la depresión. 2004. In press.
- Bobenrieth MA. Normas para la revisión de artículos originales en Salud. Rev Int Psicol Clin Salud/Int J Clin Health Psychol 2002;2:509-23.
- Montero I, León O. Clasificación y descripción de las metodologías de investigación en Psicología. Rev Int Psicol Clin Salud/Int J Clin Health Psychol 2002;2:503-08.
- Colegio Oficial de Psicólogos de España y Comisión Internacional de Test (ITC). Directrices Internacionales para el uso de los tests. Infocop 2000;77:21-32.
- 29. Beck A, Rush AJ, Shaw BF, Emery G. Cognitive therapy of depression. New York: Guilford Press, 1979.
- Ritterband LM. Evaluation of the Beck Depression Inventory's Sensitivity and the State-Trait Properties. Unpublished master's thesis. University of South Florida, Tampa, 1995.
- Vázquez C. Evaluación de los trastornos depresivos y bipolares. En: Roa A, editor. Evaluación en psicología clínica y de la salud. Madrid: CEPE, 1995.
- Vázquez C, Sanz J. Fiabilidad y validez de la versión española del Inventario para la Depresión de Beck de 1978 en pacientes con trastornos psicológicos. Clín Salud 1999;10:59–81.

- 33. Spielberger CD, Gorsuch R, Luschene R. Manual for the State-Trait Anxiety Inventory. Palo Alto, California: Consulting Psychologist Press, 1970 (Spanish Adapt., TEA, 1982).
- 34. Bermúdez J. Análisis funcional de la ansiedad. Rev Psicol Gen Aplic 1978;153:617-34.
- Bermúdez J. Ansiedad y rendimiento. Rev Psicol Gen Aplic 1978; 151:183-7.
- Iglesias R. La ansiedad Estado/Rasgo (STAI) en un grupo clínico (síndrome tóxico). Memoria de licenciatura. Facultad de Psicología. Universidad de Salamanca, 1982.
- 37. Sandín B. Consideraciones sobre el cuestionario 8SQ. Rev Psicol Gen Aplic 1981;169:323-7.
- Spielberger CD. Manual for the State-Trait Anxiety Inventory: STAI. Palo Alto CA: Consulting Psychologists Press, 1983.
- Urraca S. Actitudes ante la muerte (preocupación, ansiedad, temor) y religiosidad. Tesis doctoral. Facultad de Psicología. Universidad Complutense de Madrid, 1981.
- 40. Spielberger CD. Manual for the State-Trait Anger Expression Inventory. Odessa, FL: Psychological Assessment Resources, 1996.
- Miguel Tobal JJ, Casado MI, Cano Vindel A, Spielberger CD. Manual del Inventario de Expresión de Ira Estado-Rasgo, STAXI-2. Madrid: TEA, 2001.
- 42. Beck A, Steer R. Manual for the Beck Depression Inventory. San Antonio, Texas: Psychological Corporation, 1993.