Revista Internacional de Psicología Clínica y de la Salud/
International Journal of Clinical and Health Psychology

ISSN 1576-7329
2002, Vol. 2, Nº 1, pp. 71-89

Spanish experimental version of the State-Trait Depression Questionnaire (ST-DEP): State sub-scale (S-DEP)

Charles D. Spielberger *(University of South Florida, USA)*
Hugo Carretero-Dios[1] *Universidad de Granada, España*)
Macarena De los Santos-Roig *(Universidad de Granada, España)*
Gualberto Buela-Casal *(Universidad de Granada, España)*

(Recibido 15 diciembre 2000 / Received 15 December 2000)
(Aceptado 29 Enero 2001 / Accepted 29 January 2001)

ABSTRACT. Data are presented for internal consistency, factor structure, and construct validity of the Spanish Experimental Version of the State Sub-scale, S-DEP, of the State-Trait Depression Inventory: Euthymia and Dysthymia, ST-DEP (Ritterband and Spielberger, 1996; Spielberger, 1999). The study was carried out with a sample of 264 university students. The BDI and the STA; were administered together with the S-DEP. Three small texts describing possible situations that each subject could experience were also administered with the three instruments. The situations differed in the degree of depression that each one could provoke. Situations were neutral, mild, or moderately depressive. Each subject was asked to read each one of the possible situations and imagine his/herself as the protagonists. The subjects were to then respond to the tests according to their feelings. Upon performing a Promax Rotation on the Spanish experimental version items of the S-DEP, two independent factors emerged: negative afectivity (dysthymia) and positive afectivity (euthymia). The S-DEP scores significantly increase from the neutral situation to the mild and moderate depressive situations. This indicates that the S-DEP is a sensitive measure of depression severity as an affective state. The internal consistency and convergent validity indexes are elevated. An analysis of the divergent validity would be discussed in future studies. Lastly, the limitations of the BDI as a measure of intensity and frequency of the affective state are also discussed.

KEY WORDS. State. Trait. Depression.

[1] *Correspondencia:* Depto. Psicología Social y Metodología de las Ciencias del Comportamiento. Facultad de Psicología. Universidad de Granada. 18071 Granada (España). E-Mail: hugocd@ugr.es

RESUMEN. Se presentan datos sobre consistencia interna, estructura factorial y validez de constructo de la versión experimental española de la subescala estado (S-DEP) del inventario para la evaluación de la depresión estado y rasgo: eutimia y distimia (ST-DEP) (Ritterband y Spielberger, 1996; Spielberger, 1999). El estudio se realizó con una muestra de 264 estudiantes universitarios. Con el S-DEP se aplicó el BDI y el STAI. Junto a estos instrumentos se elaboraron tres pequeños textos que describían situaciones que le podían ocurrir a los sujetos evaluados. Las situaciones se diferenciaban por el grado de depresión que podían provocar. Una situación era neutral, otra media y la última severamente depresiva. Los sujetos debían leer cada una de estas situaciones e imaginarse a ellos mismos como protagonistas. Después tenían que responder a las pruebas según sus sentimientos. La aplicación de una rotación promax sobre los ítem de la versión experimental española del S-DEP ha mostrado dos claros factores: afectividad negativa (distimia) y afectividad positiva (eutimia). Las puntuaciones del S-DEP, Distimia y Eutimia se incrementan significativamente de la condición neutral a la media y severamente depresiva, indicando que el S-DEP es una medida sensible de la severidad de la afectividad depresiva. Los índices de consistencia interna y validez convergente son elevados. Queda para futuras investigaciones el análisis de la validez divergente. Por último se discuten las limitaciones del BDI como medida de la intensidad y frecuencia del estado afectivo.

PALABRAS CLAVE. Estado. Rasgo. Depresión.

RESUMO. Os dados apresentados referem-se à consistência interna, estrutura factorial e validade de construto da versão espanhola experimental da sub-escala de estado, S-DEP, do inventário de depressão traço-estado: eutimia e distimia, ST-DEP (Ritterband and Spielberger, 1996; Spielberger, 1999). O estudo foi realizado com uma amostra de 264 estudantes universitários. O BDI e o STAI foram administrados juntamente com o S-DEP. Juntamente com os três instrumentos, foram também administrados três pequenos textos descrevendo situações possíveis e susceptíveis de serem experimentadas por cada sujeito. As situações diferem no grau de depressão que cada uma pode provocar. As situações eram neutras, levemente ou moderadamente depressivas. Cada sujeito foi convidado a ler cada uma das situações possíveis e a imaginar-se a si próprio como protagonista. A seguir os sujeitos responderam aos testes de acordo com os seus sentimentos. Depois de realizar uma rotação promax dos itens da versão espanhola experimental do S-DEP, emergiram dois factores independentes: afectividade negativa (distimia) e afectividade positiva (eutimia). Os valores no S-DEP, Distimia e Eutimia aumentam significativamente da situação neutra para a leve e moderada de situações depressivas. Isto indica que o S-DEP é uma medida sensível à severidade da depressão como um estado afectivo. Os índices de consistência interna e de validade convergente são elevados. Uma análise da validade divergente serão discutidos em futuras investigações. Por último as limitações do BDI como uma medida de intensidade e frequência do estado afectivo também são discutidos.

PALABRAS CHAVE. Estado. Traço. Depressão.

Introduction

If we analyze the mood disorder section of the DSM-IV (American Psychiatric Association, 1994), we can clearly see that the basic criteria needed for a diagnostic of one of these disorders is the symptom occurrence frequency. For example, in order to diagnose a major depression, a low self esteem (sadness, apathy, downhearted, etc.,) or a loss of interest or capability to feel pleasure *during at least two weeks* must be present, accompanied by at least three other symptoms, such as a loss or an increase in appetite, mental slowness or indecisiveness, feelings of uselessness or guiltiness, etc. In order to diagnose dysthymia, the symptoms must be present for two years. The dystymia disorder is also based on the intensity criteria of symptom affectation. The degree of affectation of the negative affectivity (the anhedonia, etc.,) is less than that present in a major depression disorder. Therefore, and according to the DSM-IV, the frequency and intensity criteria for mood disorders should be considered in order to make a precise diagnosis. We can assume that the defining criteria for depression, as an entity pertaining to mood disorders, is clear at a conceptual and empirical level. However, the debates concerning the depression entity continues (Snaith, 1993). Recent research to clarify to true symptoms (Peñate, 2001) suggests that the debate continues even more so when considering the relation of the depression entity with anxiety (Clark and Watson, 1991; Cole, Truglio, and Peeke, 1997; Watson, Clark, and Carey, 1988; Watson, Clark, and Tellegen, 1988; Watson *et al.*, 1995). Confusion in the entity of a construct has direct repercussions on its assessment. Authors such as Snaith (1993), point out that scales designed for depression assessment are characterized by a variation in the areas of psychopathology they cover. What influence can this have on the diagnosis? Not differentiating between the probed areas of different scales can produce an overestimation in one and lead to an imprecise diagnosis. The psychosomatic problems characteristic of depression are found in the majority of the anxiety problems and other psychological disorders. Furthermore, the characteristics of depression are also being observed as secondary manifestations of organic problems. Therefore, the variation in the areas of psychopathology they cover may affect evaluation results. According to Ritterband (1995), the BDI (BDI revised; Beck, Rush, Shaw, and Emery, 1979), the Zung Self-Rating Depression Scale, SDS (1965, 1967, 1986), the Center for Epidemiological Studies Depression Scale, CES-D (Radloff, 1977), and Zuckerman and Lubin's Multiple Affect Adjective Check List, MAACL (Zuckerman and Lubin, 1965, 1985) are the most employed measures when considering the number of citations present in the scientific literature. All of these scales share the objective of evaluating the affectation severity of different depression symptoms (intensity). However, each scale's instructions ask the subject how *he/she has felt during the past week, including the present day,* a time interval that other authors have considered as referring to a period associated with trait (Beck and Steer, 1993; Vázquez and Sanz, 1997, 1999). The instrument items used to assess depression, in many cases**,** mix intensity with frequency, causing confusion. The Zung SDS scale presents the question: *"I am as hungry now as before"*. The subject must choose between: "*none or a little of the time", "some of the time", "good part of the time", or "most or all of the time"*. In this case, a question dealing with how I am now (intensity) is mixed with frequency (trait) response options.

Ritterband and Spielberger (1996, p.124) suggest that two major difficulties exist in using these scales to assess the intensity of feelings of depression as an affective state: *"one tends to confuse the state, trait measures, and symptomatic aspects of depression* (Sacco, 1981; Katz, Shaw, Vallis, and Kaiser, 1995*)... and many measures are relatively imprecise for determining low levels of depression in normal populations while delimitating small changes in depressive affectivity* (Berndt, 1990)".With the presented information we can conclude two things. First, the most widely used scales for evaluating depression do not correctly isolate those components that the DSM-IV considers essential. Second, the scores obtained from these instruments are ambiguous when differentiating between the occurrence frequency and affectation severity of the symptomatology.

The objective of this study is to present the first validation data of a sub-scale designed to evaluate the intensity of the affective depression component (S-DEP). This sub-scale forms part of the Spanish experimental version of the ST-DEP (Ritterband and Spielberger, 1996; Spielberger, 1999), an instrument created by the Spielberger group to evaluate the affective components of depression in terms of its occurrence frequency (T-DEP, trait), as well as its intensity at the time of evaluation (S-DEP, state).

Method

Subjects

The sample was composed of a total of 264 university subjects (181 females and 83 males) from different majors. The mean age for women was 20.1 years and a standard deviation of 1.71. The mode and sample median for women was 19. For men, the mean age was 21.12, a standard deviation of 3.75, and a mode and sample median of 20.

Instruments

- *Spanish experimental version for the evaluation of state depression, S-DEP.* Test specifications:

Objective: Identify the degree of affectation (state) of the affective depression component.

Content Area: Degree of negative affectivity present, bad feelings (dysthymia), and positive affectivity, good feelings (euthymia).

a) State Dysthymia: Degree of a negative affectivity state present at the time of the evaluation.
b) State Euthymia: Degree of positive affectivity state present at the tim**e** of the evaluation.

The instructions ask the subject to read a *"number of statements that people have used to describe themselves"* and to respond by circling *"the appropriate number to the right of the statement to indicate how you feel right now, that is, at this time"*.

The response options indicate intensity and four alternatives are available: 1)*"Not at all,* 2)*"Somewhat,"* 3)*"Moderately so,"* and 4)*"Very much so"*.

The subjects' score is defined as the chosen response option (1, 2, etc.) being equivalent to the assigned score for each item referring to dystymia. Those items indicating euthymia are defined as the inverse score. The total score for the state sub-scale is obtained by summing these two values**,** which range from 26 to 104.

Item specifications: The Spanish Experimental Version of the test is composed of a total of 26 items, 13 for dystymia and 13 for euthymia. The operational definitions for dystymia and euthymia are provided below and the item number corresponding to each component is indicated within parenthesis. The items for the Spanish Experimental Version of the S-DEP are listed in Appendix 1.

a) Dystymia: A total of 13 items: to be unmotivated (2), to be unfortunate (3), to be unhappy (6), to feel gloomy (9), to feel apathetic (10), to feel down (12), to not feel like doing anything (15), to feel weak (17), to feel miserable (18), to be depressed (19), to be hopeless (21), to feel downhearted (22), to be sad (24).

b) Euthymia: A total of 13 items: to enjoy life (1), to feel whole/complete (4), to be optimistic (5), to feel good (7), to feel lucky (8), to be hopeful about the future (11), to feel alive (13), to be vivacious (14), to be happy (16), to be content (20), to do things that feel good (23), to be excited (25), to be full of energy (26).

- *Neutral, mild depressive, and moderate depressive vignette*. Small text vignettes describing possible real life situation were presented to each subject. The texts were designed so that the subjects would imagine themselves as the protagonists in each scene. Three different scenes were used in the study: A neutral content scene, a mild depressive scene, and a moderately depressive scene. The objective was to verify if the Spanish experimental version of the S-DEP was equipped to differentiate between the intensity and severity of Affective Affectation. A total of ten conditions were created for the selection process (3 neutral, 4 mild depressive, and 3 moderate depressive). The ten vignettes were presented with two different order sequences to a total of 16 randomly chosen Psychology students. Half of the students were presented the vignettes in certain order and the remaining half in another order. The subjects were asked to evaluate the degree of sadness or depression that they felt with each scene on a scale from 1 (no depression) to 10 (very high depression). A vignette for each depression level was selected from the evaluation results (neutral, mild, and moderate). The selection criteria were defined as the chosen scene having been consistently evaluated as neutral (score of 1), mild (score between 4 and 5), or moderate (score between 8 and 9), depending on the scene. The chosen vignettes are described below.

Neutral: Each year when you go to pay your tuition, you find a small increase in fees. This year you find that the fees are the same as the previous year.

Mild: A few days ago, you went for a job interview for a temporary position in order to save some money. You have just received a phone call informing you that another job candidate has filled the position.

Moderate: A member of your family, very close to you, has just been diagnosed with a cancer in an advanced stage. The doctors have informed you that he/she has little time to live.

- *Beck Depression Inventory, BDI, revised version* (Beck *et al.*, 1979). This instrument was chosen for the present study for two reasons. First, it is the most widely used

evaluative and research tool (Friedman and Thase, 1995; Gotlib and Cane, 1989; Piotrowski, 1996; Rabkin and Klein, 1987) and the most cited in the related literature (Ritterband, 1995). Second, Ritterband and Spielberger (1996) found the BDI to be an adequate, though confusing, measure of the frequency as well as the intensity of depressive symptomatology. This measure would serve to estimate the convergent validity of the S-DEP, with the expectation that like the Ritterband and Spielberger (1996) study, the correlations would be significant, yet inferior, to those found when correlating the BDI with other scales that probe a component associated more closely to trait. The scale contains a total of 21 items with 4 response options ranging from 0 (absence of depression) to 3 (maximum depression). The BDI total scores can range from 0 to 63. The instructions require the subject to circle the number (0, 1, 2, or 3) next to the statement that best describes the way you have been feeling during the past week, including today. The objective of the BDI is to evaluate the severity of the cognitive, affective, behavioral, and physiological symptoms of depression (Beck and Steer, 1987; Beck, Steer, and Garbin, 1988; Ibañez, Peñate, and González, 1997; Steer, Beck, and Garrison, 1986) The reliability and validity of the BDI have been widely corroborated in clinical as well as normal samples (Beck *et al.*, 1988; Ritterband and Spielberger, 1996). An elevated internal consistency (.83 and .90) is observed in the Spanish validation of the test (Sanz and Vazquez, 1998; Vazquez and Sanz, 1997, 1999), which was performed on both normal and clinical populations. The values for the test-retest oscillate between .60 and .72 and the concurrent validity indexes range between .68 and .89. Sanz and Vázquez (1998) found in their study that the divergent validity showed low correlations between .11 and .45 for different anxiety states.

- *State sub-scale for the State-Trait Anxiety Inventory, STAI (Spielberger, Gorsuch, and Luschene, 1970).* The global scale is composed of a total of 40 items, with four response options divided into two sub-scales. The first scale measures state anxiety and the second, trait anxiety, each scale consisting of 20 items. The instructions for the state anxiety scale, the sub-scale used in the present study, asks the subject to *rate themselves on a scale from 0 to 3, by circling the statement that best indicates how you feel right now, at this time.* The response alternatives available to the subject are: "Not at all", "Somewhat", "Moderately so", and "Almost always". The statistical data for the original test support its use (Spielberger *et al.,* 1970). The Spanish adaptation of this scale (Bermúdez, 1978a, 1978b), shows internal consistency values for both normal and clinical populations similar to those of the original study, ranging between .82 and .92. Similar values are also found for the test-retest values, which range between .70 and .80. The concurrent and divergent validity indexes obtained in the Spanish adaptation corroborate the elevated psychometric power of the STAI (Bermúdez, 1978a, 1978b; Iglesias, 1982; Sandín, 1981; Urraca, 1981).

Procedure

The subjects participated in the study during normal class hours. Once the evaluator introduced himself, each subject was informed of the purpose of the study using standard instructions (Appendix 2). When the subjects had completed reading the instructions,

those subjects who decided to collaborate in the study were administered the questionnaires specified in the instrument section (due to the study's objective, the BDI items dealing with weight loss were eliminated). The instructions described in Appendix 3 were administered together with these questionnaires.It should be noted that another series of scales dealing with the trait sub-scale were also administered along with the mentioned material. The results of these scales are not reported in this paper.

Results

The results of unrotated principal-axis factor analyses of the S-DEP items, as well, the results of oblique promax rotation, computed separately for males and females, are reported in Table 1. In both cases the subjects' responses to the three vignettes were combined. In this table we can observe that the factorial analysis of the principal-axis reveals an independent factor in which all of the S-DEP experimental version items are saturated with weights between .70 and .89 for female and between .65 and .89 for male. Only one secondary factor is obtained for both genders, with saturations mainly appearing below .30 and capable of explaining 6.55% of the variance in female (as opposed to 67.60% of the independent factor) and 6.33% of the variance in male (as opposed to 65.51% of the independent factor). The promax rotation reveals two clear factors for both genders. One of these factors is composed of the positive affectivity items (Euthymia) and the other factor by the negative affectivity items (Dystymia).

Means, standard deviations, and alpha coefficients for the S-DEP, computed separately for subjects' responses to the Dysthymia and Euthymia factors, together with the item-total correlations of these two factors and the F Test from differences between genders, are reported in Table 2. The internal consistency values for the Dystymia and Euthymia factors are very high for male and female (.95), placing the total S-DEP scale in .96. Gender differences only appear in the negative affectivity factor Dystymia ($p < .001$). Neither the S-DEP nor the Euthymia factor reported significant gender differences. All of the item-total correlations found for the Dystymia and Euthymia factors are highly significant ($p < .001$).

Table 3 presents the means, standard deviations, and alphas for the Dystymia and Euthymia factors for each one of the employed conditions for male as well as female. The internal consistency for the Dystymia factor is quite high for each one of the vignettes (.92 to .93 for female; .83 to .95 for male). The alpha levels for the Euthymia factor are equally high (.87 to .94 for female; .94 to .95 for male).

The total scores for Dystymia increase from the neutral condition (mean = 17.40 for female; 15.62 for male) to the mild depression (mean = 28.56 for female; 23.52 for male) and the moderate depression condition (mean = 40.88 for female; 35.55 for male). The effect is similar for the Euthymia factor, in which the values increase for the neutral condition (mean = 28.14 for female; 25.85 for male), the mild depression (mean = 41.07 for female; 35.85 for male), and the moderate depression condition (mean = 47.29 for female; 43.16 for male). Changes in the scores are significant from one condition to another for both genders ($p < .001$ for all cases except the mild to moderate condition for male in the Euthymia, where $p < .01$).

If we examine gender differences by means of an F Test, females in the Dystymia factor score significantly higher than the male in all conditions ($p < .001$). These differences only appear in the moderate condition for the Euthymia factor ($p < .001$).

An item analysis of the Dystymia and Euthymia factors reveals a high sensitivity for reflecting the intensity of the affectivity produced by each one of the conditions. All items for both genders increase their scores from the neutral condition to the mild and moderate conditions in the Euthymia factor (the codification for the Euthymia factor scores has been inverted) as well as the Dystymia factor.

TABLE 1. Factor loadings of the Spanish experimental S-DEP, for females and males based on principal axis factor analyses with promax rotation, combining the responses to the three vignettes.

	Main Axis Analysis				*Promax Rotation*					
	Factor 1		*Factor 2*		*Factor 1 Dystymia*		*Factor 2 Euthymia*		*r Item-Rest*[1]	
Item[1]	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*	*F*	*M*
24. I am sad	.89	.89			.73	.78			.89	.89
7. I feel good	.88	.89					.78	.73	.88	.88
3. I am unfortunate	.87	.79			.78	.78			.87	.80
9. I feel gloomy	.87	.86			.64	.69			.87	.86
12. I feel down	.86	.86			.72	.63			.86	.87
14. I am vivacious	.85	.87					.80	.77	.85	.87
18. I feel miserable	.84	.78		.30	.87	.88			.85	.79
1. I enjoy life	.84	.82					.64	.75	.85	.83
5. I am optimistic	.84	.82					.85	.84	.84	.82
22. I feel downhearted	.84	.85			.87	.88			.84	.85
19. I am depressed	.83	.84	-.32		.94	.89			.84	.84
20. I am content	.83	.82					.84	.78	.83	.83
2. I am unmotivated	.83	.85			.60	.60			.84	.85
15. I don't feel like doing anything	.83	.79			.81	.73			.84	.80
16. I am happy	.83	.87					.67	.71	.83	.87
25. I am excited	.83	.78	.32				.91	.85	.83	.79
4. I feel whole/complete	.82	.81		-.34			.88	.96	.82	.82
21. I am hopeless	.80	.67		.30	.86	.81			.80	.68
26. I am full of energy	.79	.81					.83	.74	.80	.82
6. I am unhappy	.79	.75			.84	.83			.80	.76
23. I do things that make me feel good	.77	.80					.60	.79	.78	.81
10. I feel apathetic	.75	.76			.64	.68			.76	.77
8. I feel lucky	.74	.68	.31				.85		.74	.70
13. I feel alive	.73	.77					.73	.74	.74	.78
17. I feel weak	.72	.71			.81	.67			.74	.72
11. I am hopeful about the future	.70	.65					.54	.67	.71	.67
% Explained variance	67.60	65.51	6.55	6.33						
% Total explained variance	74.15	71.84								

[1] The items are rank-ordered on the basis of the descending magnitude of their saturation in the most weighted factor found in the analysis of the main axis for females. Saturations ≥ 30 are included. [2] All of the correlations are significant $p < .001$

TABLE 2. Means, standard deviations, and alpha coefficients for the spanish experimental S-DEP, dystymia-euthymia sub-scales, and each one of the items, combining the responses to the three vignettes for male and female.

					Alphas/IRs[1]		
	F		M		Sub-scale		F[3]
Items[1]	Ms	SDs	Ms	SDs	F	M	Sig.
S-Dep	67.78	22.58	59.86	21.90	.96	.96	1.76
Dystymia	28.95	12.52	24.90	11.38	.95	.95	10.87[a]
Euthymia	38.83	11.06	34.96	11.47	.95	.95	.95
Dystymia							
19. I am depressed	2.00	1.12	1.73	1.02	.89	.89	5.67[c]
22. I feel downhearted	2.09	1.09	1.83	1.06	.88	.89	1.91
18. I feel miserable	2.18	1.12	1.84	1.02	.89	.84	10.12[b]
21. I am hopeless	1.92	1.06	1.56	.89	.85	.73	14.64[a]
6. I am unhappy	2.05	1.08	1.81	1.03	.85	.81	.36
17. I feel weak	2.12	1.05	1.74	.92	.79	.75	7.34[b]
15. I don't feel like doing anything	2.15	1.11	1.93	1.05	.87	.83	6.94[b]
3. I am unfortunate	2.05	1.08	1.82	1.04	.90	.84	9.33[b]
24. I am sad	2.53	1.16	2.19	1.12	.91	.92	7.04[b]
12. I feel down	2.46	1.12	2.14	1.10	.89	.88	2.36
10. I feel apathetic	2.22	1.09	1.85	1.01	.79	.81	7.65[b]
9. I feel gloomy	2.58	1.20	2.28	1.15	.88	.88	4.03[c]
2. I am unmotivated	2.43	1.05	2.15	1.06	.85	.86	1.44
Euthymia							
25. I am excited	3.24	.96	2.94	1.06	.88	.85	4.39[c]
4. I feel whole/complete	3.18	.92	2.89	1.05	.87	.88	9.89[c]
8. I feel lucky	3.20	1.00	2.98	1.07	.81	.76	1.12
5. I am optimistic	3.05	1.03	2.75	1.05	.88	.86	1.81
20. I am content	3.13	1.03	2.86	1.13	.88	.86	6.42[c]
26. I am full of energy	3.10	.98	2.74	1.12	.85	.86	14.58[a]
14. I am vivacious	3.05	1.02	2.80	1.02	.89	.89	1.19
7. I feel good	2.99	1.05	2.75	1.05	.90	.90	1.46
13. I feel alive	2.74	1.02	2.29	.97	.80	.82	.55
16. I am happy	2.91	.99	2.65	1.07	.86	.89	10.24[b]
1. I enjoy life	2.74	.99	2.46	.99	.86	.86	.26
23. I do things that make me feel good	2.81	1.01	2.46	1.02	.81	.80	.94
11. I am hopeful about the future	2.68	1.01	2.38	.97	.74	.71	.40

[1] The items are listed in descending order according to their saturation in the euthymia and dystymia factors for female. [2] Alpha coefficients for the State Scale and the Euthymia and Dystymia Sub-scales, and item-rest correlations separating the Euthymia and Dystymia items. [3] F values and significance levels: [a] $p < .001$. [b] $p < .01$. [c] $p < .05$

TABLE 3. Means, standard deviations, and alpha coefficients for the dystymia-euthymia sub-scales, and each item for the vignettes.

Female	*Male*

[1] The items are listed in descending order according to their saturation in the euthymia and dystymia factors for female as was presented in Table 2.

Table 4 presents the means, standard deviations, and alpha coefficients for the S-DEP and the BDI in the neutral, mild, and moderate depression vignettes. These S-DEP data are presented separately from the Euthymia and Dystymia factors (Table 3) to better identify the differences with the BDI when measuring the affectation degree of the affective component. The S-DEP internal consistency values are high (from .94 to .95 for female; from .93 to .95 for males) and quite similar to those found for Euthymia and Dystymia (Table 3) in the three employed vignettes. The internal consistency indexes for the BDI are also high, although somewhat inferior to the S-DEP indexes (from .88 to .91 for female; from .77 to .91 for male).

The mean scores for the S-DEP indicate an increase from the neutral vignette (mean = 45.55 for female; mean = 41.48 for male), to the mild (mean = 69.63 for female; mean = 59.37 for male), and to the moderate depression vignette (mean = 88.18 for female; mean = 78.71 for male). The scores significantly increase from the neutral to mild condition and from the mild to moderate condition ($p < .001$), for male as well as female, when a t-test is performed on the score increase. The differences between genders are significant for the three vignettes ($p < .05$ in the neutral vignette; $p < .001$ in the mild and moderate), with females obtaining the highest S-DEP scores.

The same increase in the mean scores is observed in the BDI from the neutral vignette (mean = 6.39 for female, mean = 4.53 for male) to the mild vignette (mean = 12.57 for female; mean = 7.95 for male) and to the moderate depression vignette (mean = 23.20 for female; mean = 15.77 for male). These increments are significant when a t-test is performed ($p < .001$) from one vignette to another for both genders. Like the S-DEP, significant differences between genders appear for the three vignettes ($p < .01$ for the neutral; $p < .001$ for the mild and moderate), with the female obtaining the highest scores.

TABLE 4. Means, Standard deviations, Cronbach alpha coefficients for the experimental S-DEP and the BDI, *and test of gender differences for each one of the employed vignettes.*

	Female (N= 181)								
	Neutral			*Mild*			*Moderate*		
Scales	*Ms*	*SDs*	*Alpha*	*Ms*	*SDs*	*Alpha*	*Ms*	*SDs*	*Alpha*
S-Dep	45.55	13.15	.95	69.63	16.58	.94	88.18	12.96	.94
BDI	6.39	6.40	.88	12.57	8.93	.91	23.20	10.91	.91
	Male (N= 83)								
S-Dep	41.48	11.27	.93	59.37	15.39	.95	78.71	19.59	.94
BDI	4.53	4.47	.77	7.95	6.04	.81	15.77	10.11	.91
T-test S-Dep		2.43[c]			4.77[a]			4.65[a]	
T-test BDI		2.38[b]			4.28[a]			5.25[a]	

[a] $p < .001$ [b] $p < .01$ [c] $p < .05$

The correlations between the S-DEP, Dystymia, Euthymia, and the BDI for the three conditions are presented in Table 5, in which the data for male and female are reported separately. The correlations of the S-DEP with the BDI are significant ($p <$ .001) for both genders with values ranging between .65 and .72 (r mean = .68). The correlations between Dystymia and the BDI are also significant ($p <$ .001; from .58 to .69 for female, r mean = .64; from .60 to .68 for male, r mean = .64). The correlations between Euthymia and the BDI are equally significant ($p <$ .001; from .50 to .60 for female, r mean = .55; from .56 to .60 for male, r mean = .58).

TABLE 5. Experimental S-DEP, S-Dystymia, and S-Euthymia correlations with the BDI for each one of the conditions for both male and female.

	Female (N= 181)								
	Neutral			*Mild*			*Moderate*		
	S-Dep	*Dyst*	*Eut*	*S-Dep*	*Dyst*	*Eut*	*S-Dep*	*Dyst*	*Eut*
BDI	.71*	.65*	.57*	.72*	.69*	.60*	.65*	.58*	.50*
	Male (N= 83)								
BDI	.65*	.60*	.56*	.72*	.68*	.60*	.70*	.65*	.60*

*$p <$ .001

Table 6 presents the data for the correlations between the S-DEP, Dystymia, Euthymia, and BDI, with the STAI state anxiety sub-scale for the three conditions. The correlations between the S-DEP and the STAI state are highly significant ($p <$ .001; from .65 to .83 for female, r mean = .74; from .73 to .82 for male, r mean = .76). These correlations are superior to those found between the S-DEP and the BDI. The BDI also significantly correlates ($p <$ .001) with the STAI state (from .65 to .72 for female, r mean = .69; from .56 to .73 for male, r mean = .65), though the values are lower than those found for the S-DEP.

The correlations between Dystymia and the STAI state are highly significant ($p <$ .001; from .63 to .75 for female, r mean = .67; from .67 to .77 for male, r mean = .72). The significance level between Euthymia and the STAI state is also high ($p <$ .001; from .63 to .76 for female, r mean = .70; from .65 to .78 for male, r mean = .72). The correlation values between Dystymia and Euthymia with the STAI are superior to those found between these two sub-scales and the BDI.

TABLE 6. Experimental S-DEP, S-Dystymia, S-Euthymia, and BDI correlations with the STAI-S for all subject´s responses.

	Female (N= 181)											
	Neutral				*Mild*				*Moderate*			
	S-Dep	*Dys*	*Eut*	*BDI*	*S-Dep*	*Dys*	*Eut*	*BDI*	*S-Dep*	*Dys*	*Eut*	*BDI*
STAI	.76	.63	.73	.72	.83	.75	.76	.71	.65	.65	.63	.65
	Male (N= 83)											
STAI	.73	.67	.65	.56	.82	.77	.78	.73	.76	.73	.74	.68

Discussion

Reference was made in the introduction to the important limitation for measuring depression when probing the intensity or severity of the affective state affectation. The majority of the scales are imprecise when determining low depression levels and small changes in the depressive affectivity of non-clinical populations (Berndt, 1990). One of the objectives of the State and Trait Depression Inventory: euthymia and dystymia, the ST-DEP (Spielberger, 1999), is to provide a reliable measure for intensity or degree of affective affectation with the S-DEP scale. This paper reports the first reliability and validity data for the Spanish experimental version of the S-DEP.

The original S-DEP (Ritterband and Spielberger, 1996; Spielberger, 1999) is composed of a total of 10 items: 5 for Euthymia and 5 for Dystymia. The factorial analyses by promax rotations clearly isolated the Euthymia and Dystymia factors. In the study presented here, on a first pool of 26 items, the results are consistent with those of the original scale. A promax rotation revealed two clear factors formed by the same number of items (13 items which reflect positive affectivity, good feelings (Euthymia) and another 13 items referring to the negative affectivity component (Dystymia). In considering the total subject responses, the internal consistency analysis for the two global S-DEP scale factors and each one of the items, revealed quite high values (.95 for Euthymia and Dystymia for both genders; 96 for S-DEP in both genders; significant item-rest correlations $p < .001$ in both genders). These findings are similar to those found in the original scale. However, Spielberger (1999) showed low internal consistency values in men for the S-DEP (.87), the Dystymia factor (.81), and for the Euthymia factor (.87). The analysis of gender differences in the present study, by means of an F test, only reveal differences for negative affectivity (Dystymia), with higher scores present in the women. There were no differences present for the S-DEP or for the Euthymia factor. It should be noted that very similar saturations were found for some of the experimental S-DEP scale items. This could indicate a problem of items measuring the same phenomena. However, this study presented data from a pool of 26 items. From these items, those that were statistically considered to behave the worst would be discarded. Our objective is that a final version of the instrument would present similar dimensions to those of the original Spielberger scale (10 items for the S-DEP). As in any adaptation, items similar or identical in meaning should be tested to explore their psychometric properties and in this way make use of the items that best define the concept being measured. The same item phenomena was expected due to the use of verbal labels with the similar meaning. Future research on the refinement of a scale to evaluate state and trait depression: euthymia and dystymia, would eliminate redundant items and keep only the ones that best evaluate the construct. When separating the analyses for each of the conditions eliciting depression (neutral, mild, and moderate), the S-DEP alpha values for both genders are evidence of the instrument's high internal consistency (between .94 and .95). The alpha indexes for both genders in Dystymia (between .92 and .94 for women; between .83 and .95 for men) and Euthymia (between .87 and .95 for women; between .94 and .95 for men) for each of the conditions also reveal a high internal consistency. These results are similar to those found in the original Spielberger scale (1999).

The internal consistency values for the BDI have also been high, although inferior to those of the S-DEP. This was expected due to the more homogenous content of the S-DEP items as opposed to the BDI items. The same findings were reported in different studies centering on the analysis of the BDI components (Ritterband and Spielberger, 1996; Vázquez and Sanz, 1999). Analysis of each condition has found gender differences in both instruments with women having obtained the highest scores in all conditions. The study presented here was performed on a sample of university students. Studies carried out in Spain using the BDI with similar samples do not find any gender differences (Sánz and Vázquez, 1998; Vázquez and Sánz, 1997). Other depression measures have found that gender differences tend to emerge until adult age (Vázquez and Sánz, 1999). In the original ST-DEP validation studies, Spielberger did not observe significant differences between genders for the S-DEP scale, Dystymia and Euthymia. Our results from a sample of Spanish university students indicate differences between men and women. Differences were also found when analyzing the Spanish experimental trait scale, T-DEP, with the same sample.

The S-DEP scale has demonstrated a high sensitivity for evaluating the affectation severity of the affective components. The total scores for the S-DEP, Dystymia, and Euthymia have augmented from the neutral condition to the mild and moderate depression conditions, with significant differences between conditions. This effect was also found when analyzing the mean scores for each one of items in each one of the conditions. These results support the ability of the S-DEP to evaluate intensity. As Ritterband and Spielberger observed (1996), the BDI has also demonstrated to be sensitive to the changes in intensity produced by each one of the vignettes. This can be interpreted as a support for its ability to evaluate intensity. However, this conclusion needs further clarification. The original BDI was designed to evaluate affectation severity. However, the revised manual for the BDI (Beck and Steer, 1987, p.4) points out that the original version did probe a state component by asking the evaluating subject how he/she feels *now.* On the other hand, the revised version used in this study, asks the subject how he/she has felt during *this past week including today.* The BDI revised "would evaluate a more persistent trait". The authors who adapted the revised BDI in Spain (Vázquez and Sanz, 1999) share the same conclusion. The results of this study reveal that the BDI is a valid measure of the changes in the severity of the affective component. Like Ritterband and Spielberger concluded (1996), this means that the BDI provides a weak measure of depression as a syndrome or trait. Another study carried out on the ST-DEP trait scale, the T-DEP, with the same sample used in this study, revealed high correlations between the BDI and the T-DEP (around .80). These correlations would support the commentaries of the test's authors, indicating that the revised BDI centers more on a quality closely associated to trait. However, the fact that the BDI also reports changes in state and shows significant correlations with the S-DEP, Dystymia, and Euthymia, suggests a precision problem in the BDI, even though the correlations are inferior to those found for the T-DEP, as is to be expected (see the other articles published in this issue). Although the BDI is an adequate measure, it is weak in discriminating the depression intensity and frequency components. The significant correlation values between the STAI state sub-scale and the S-DEP and BDI move in an expected direction

(Spielberger, 1983). The correlations between the S-DEP and the STAI state have been higher than those between the STAI state and the BDI. Once again, this confirms the ability of the S-DEP to evaluate intensity or degree of affectation, while also presenting the limitations of the BDI for adequately reporting intensity when evaluating intensity together with a quality closer to trait. The divergent validity of the S-DEP remains to be demonstrated. In their original study, Ritterband and Spielberger (1996) used the STPI to analyze this aspect and found promising results. Future studies using the Spanish Experimental Version of the S-DEP would clarify this aspect by using the same instrument, the STPI, employed in the original study (Spielberger *et al*., 1979).

The results of this study provide the first data for the Spanish Experimental Version of the S-DEP. The factorial analysis have revealed the instrument's high construct validity. The scores for the S-DEP, Dystymia and Euthymia have gradually increased in accordance with the participants imagining themselves in a neutral, mild, or moderate depression conditions. These findings demonstrate the sensitivity of the S-DEP for measuring the variations in the affective state. The internal consistency of the S-DEP, Dystymia and Euthymia has been very high. As for the convergent validity, this was calculated through the correlations with the BDI. The results indicate a significant correlation, although as was expected somewhat inferior, to that found in the Spanish Experimental Version of the Trait Scale, T-DEP (see the other articles published in this issue). The divergent validity of the Spanish adaptation of the S-DEP remains to be explored.

References

American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders,* 4th ed. (DSM-IV). Washington, DC: American Psychiatric Press.

Beck, A., Rush, A. J., Shaw, B.F., and Emery, G. (1979). *Cognitive therapy of depression.* New York: Guildford Press.

Beck, A. T. and Steer, R. A. (1987). *Beck Depression Inventory: Manual.* New York: The Psychological Corporation.

Beck, A. and Steer, R. (1993). *Manual for Beck Depression Inventory.* San Antonio, Texas, Psychological Corporation.

Beck, A. T., Steer R. A., and Garbin, M. C. (1988). Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8,* 77-100.

Bermúdez, J. (1978a). Ansiedad y rendimiento. *Revista de Psicología General y Aplicada, 151,* 183-207.

Bermúdez, J. (1978b). Análisis funcional de la ansiedad. *Revista de Psicología General y Aplicada, 153,* 617-634.

Berndt, D.J. (1990). Inventories and scales. In B.B. Wolman and G. Stricker (ed.), *Depressive Disorders* (pp. 255-274). New York: John Wiley.

Clark, L. and Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology, 100,* 316-336.

Cole, D., Truglio, R., and Peeke, L. (1997). Relation between symptoms of anxiety and depression in children: A multitrait-multimethhod-multigrup assessment. *Journal of Consulting and Clinical Psychology, 65,* 110-119.

Friedman, E. S. and Thase, M. E. (1995). Trastornos del estado de ánimo. In V. E. Caballo, G. Buela-Casal, and J. A. Carrobles (dirs.) *Manual de psicopatología y trastornos psiquiátricos.* Siglo XXI: Madrid.

Gotlib, I.H. and Cane, D.B. (1989). Self-report assessment of depression and anxiety. In P.C. Kendall y D. Watson (eds.) *Anxiety and Depression*. San Diego: Academic Press.

Ibáñez, I., Peñate, W., and González, M. (1997). La estructura factorial del Inventario de Depresión de Beck. *Psicología Conductual, 5,* 71-91.

Iglesias, R. (1982). *La Ansiedad Estado/Rasgo (STAI) en un grupo clínico (Síndrome tóxico).* Memoria de Licenciatura, Facultad de Psicología, Universidad de Salamanca.

Katz, R., Shaw, B.F., Vallis, T.M., and Kaiser, A.S. (1995). The assessment of severity and symptom patterns in depression. In E.E. Beckham and W.R. Leber *Handbook of Depression: Treatment, Assessment and Research,* 2nd ed. (pp. 61-85) New York: Guildford.

Peñate, W. (2001). Presentación de un cuestionario básico para la evaluación de los síntomas genuinos de la depresión. *Análisis y Modificación de Conducta,27*, 671-869.

Piotrowski, C. (1996). Use of the Beck Depression Inventory in clinical practice. *Psychological Reports, 79,* 873-874.

Rabkin, J.G. and Klein, D.F. (1987). The clinical measurement of depressive disorders. In A.J. Marsella, R.M.A. Hirschfeld, y M.M. Katz (eds.) *The Measurement of Depression* (pp. 30-86). New York: Guildford.

Radloff, L.S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1,* 385-401.

Ritterband, L.M. (1995). *Evaluation of the Beck Depression Inventory's Sensitivity and State-Trait Properties.* Unpublished master's thesis. University of South Florida, Tampa, FL.

Ritterband, L.M. and Spielberger, C.D. (1996). Construct Validity of the Beck Depression Inventory as a measure of state and trait depression in nonclinical populations. *Depression and Stress, 2,* 123-145.

Sacco, W.P. (1981). Invalid use of the Beck Depression Inventory to identify depressed college-student subjects: A methodological comment. *Cognitive and Theory Research, 5,* 143-147.

Sandín, B. (1981). Consideraciones sobre el cuestionario 8SQ. *Revista de Psicología General y Aplicada, 169,* 323-327.

Sánz, J. and Vázquez, C. (1998). Fiabilidad, validez y datos normativos del Inventario para la Depresión de Beck. *Psicothema, 10,* 303-318.

Snaith, P. (1993). What depression rating scales measure? *British Journal of Psychiatry, 163,* 293-298.

Spielberger, C.D. (1983). *Manual for the State-Trait Anxiety Inventory: STAI (Form I)*. Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. (1999, November). *Evaluación de la depresión: Eutimia y Distimia*. Conference presented in the International Symposium about Depression, Granada, Spain.

Spielberger, C.D., Barker, L.R., Russell, S.F., Crane, R.S., Westberry, L.G., Knight, J., and Marks, E. (1979). *The Preliminary Manual for the State-Trait Personality Inventory*. University of South Florida. Typescript.

Spielberger, C., Gorsuch, R., and Luschene, R. (1970). *Manual for the State-Trait Anxiety Inventory.* Palo Alto, California, Consulting Psychologists Press. (Adapt. Española, TEA, 1982).

Steer, R.A., Beck, A., and Garrison, B. (1986). Applications of the Beck Depression Inventory. In N. Sartorius and T.A. Ban. Geneva (eds.) *Assessment of Depression (*pp. 121-142). Switzerland: World Health Organization.

Urraca, S. (1981). *Actitudes ante la muerte (preocupación, ansiedad, temor) y religiosidad.* Tesis doctoral. Facultad de Psicología, Universidad Complutense, Madrid.

Vázquez, C. and Sánz, J. (1995). Trastornos del estado de ánimo: aspectos clínicos. In A. Bellock, B. Sandín, and F. Ramos (eds.), *Manual de Psicopatología, vol. 2* (pp. 299-340). Madrid: McGraw-Hill.

Vázquez, C. and Sánz, J. (1997). Fiabilidad y valores normativos de la versión española del Inventario para la Depresión de Beck de 1978. *Clínica y Salud, 8,* 403-422.

Vázquez, C. and Sánz, J. (1999). Fiabilidad y validez de la versión española del Inventario para la Depresión de Beck de 1978, en pacientes con trastornos psicológicos. *Clínica y Salud, 10, 59*-81.

Watson, D., Clark, L., and Carey, G. (1988). Positive and Negative affectivity and their relation to anxiety and depressive disorders. *Journal of Abnormal Psychology, 97,* 346-353.

Watson, D., Clark, L., and Tellegen, A. (1988). Development and validation of brief measures of Positive and Negative Affect: The PANAS scales. *Journal of Personality and Social Psychology, 54,* 1063-1070.

Watson, D., Clark, L., Weber, K., Assenheimer, J., Strauss, M. and McCormick, R. (1995). Testing a tripartite model: II. Exploring the symptom structure of anxiety and depression in student, adult, and patient samples. *Journal of Abnormal Psychology, 104,* 15-25.

Zuckerman, M. and Lubins, B. (1965). *The Multiple Affect Adjective Check List.* San Diego, CA: Educational and Industrial Testing Service.

Zuckerman, M. and Lubins, B. (1985). *The Multiple Affect Adjective Check List- Revised: Manual.* San Diego, CA: Educational and Industrial Testing Service.

APPENDIX 1. Set of items constructed for the spanish experimental version of the S-DEP

1. I enjoy life / *Disfruto de la vida*
2. I am unmotivated / *Estoy desmotivado/a*
3. I am unfortunate / *Me siento desgraciado/a*
4. I feel whole/complete / *Me siento pleno*
5. I am optimistic / *Estoy ilusionado/a*
6. I am unhappy / *Soy infeliz*
7. I feel good / *Me siento bien*
8. I feel lucky / *Me siento dichoso/a*
9. I feel gloomy / *Estoy apenado/a*
10. I feel apathetic / *Me siento apático/a*
11. I am hopeful about the future / *Tengo esperanzas sobre el futuro*
12. I feel down / *Estoy decaido/a*
13. I feel alive / *Me siento vivo/a*
14. I am vivacious / *Estoy animado/a*
15. I don't feel like doing anything / *No tengo ganas de nada*
16. I am happy / *Soy feliz*
17. I feel weak / *Me siento débil*
18. I feel miserable / *Me siento desdichado/a*
19. I am depressed / *Estoy hundido/a*
20. I am content / *Estoy contento/a*
21. I am hopeless / *Estoy desesperado/a*
22. I feel downhearted / *Estoy abatido/a*
23. I do things that make me feel good / *Hago cosas que me divierten*
24. I am sad / *Estoy triste*
25. I am excited / *Estoy entusiasmado/a*
26. I am full of energy / *Me siento enérgico/a*

APPENDIX 2. General instructions administered to the subjects before starting the evaluation.

A study dealing with the emotions of the university students is being carried out in the University of Granada. **To achieve the objectives of this study, we need your assistance.** We would deeply appreciate your participation so that we can learn more about university students' emotions. Your assistance is completely voluntary and **you can refuse to participate or to abandon the study at any time.**

If you decide to participate in the study, you will be administered a series of questionnaires. Your task will be simple and will consist of filling out each item of the questionnaire. We ask that you complete the questionnaires with all truthfulness, as your responses will be completely anonymous and confidential. We also ask that you concentrate while filling out each and every one of the questionnaires.

If you decide to participate in the described study, we would like to thank you in advance for your participation.

Do you have any questions? If so, please ask them at this time.

Thank you for your assistance.

APPENDIX 3. Instructions presented with each booklet of the questionnaires.

A total of 3 different situations are going to be described to you. Each situation can occur in the everyday life and can cause people to experience different emotions. The situations are presented one by one, and each situation would be followed by a series of numbered questionnaires (questionnaire nº1, questionnaire nº2, etc.). Your task is simple. **Carefully read the first situation and imagine how you would feel if the described situation had happened to you**. Take the time needed to imagine how you would feel if the situation described had happened to you. **Following this imagination process** and based on the emotions elicited, **answer the items of questionnaire nº1 that are presented following the first situation**. When you complete questionnaire nº1, read the second situation and **repeat the process. Answer the items of the questionnaire nº2 according to how you believe you would feel if this second situation happened to you**. When you finish with the questionnaires of the second situation, **repeat the same process with the third situation**. Remember that you should answer the questionnaires according to how you believe you would feel if the situation had happened to you.