## Original

Antonio Vélez-Moreno<sup>1</sup> Óscar M. Lozano<sup>1</sup> Fermín Fernández-Calderón<sup>1,2</sup> Antonio J. Rojas<sup>3</sup> Pablo Sayans-Jiménez<sup>3</sup> Francisco González-Saiz<sup>4</sup> Juan Ramírez López<sup>5</sup>

## Validity evidence, sensibility and specificity of the severity dimension of the SDSS alcohol dependence scale

<sup>1</sup>Dpto. Psicologia clínica, experimental y social. Universidad de Huelva <sup>2</sup>Agencia de Servicios Sociales y Dependencia de Andalucía <sup>3</sup>Departamento de Psicología. Universidad de Almería <sup>4</sup>Unidad de Salud Mental Comunitaria de Villamartín. Hospital de Salud Mental de Cádiz <sup>5</sup>Servicio Provincial de Drogodependencias de Huelva

**Objective.** Therapeutic success in the treatment of alcohol use disorders highly depends on an appropriate diagnosis. The Substance Dependence Severity Scale –SDSS- is a scale that assesses substance dependence in dimensional terms and that follows the diagnostic criteria established by the international classification systems. The aim of this study is to provide validity evidence for the severity dimension of the alcohol dependence scale of the SDSS comparing it with the Mini International Neuropsychiatric Interview –MINI-, and others variables related to substance use included in the EuropASI.

Methods. A total of 109 patients admitted for treatment in the Drug Abuse Center Services of Huelva who had used alcohol in the month previous to the interview participated. The SDSS, MINI and EuropASI were administered. The diagnostic capacity of the SDSS was assessed by Receiver Operating Characteristic (ROC) curve analysis, taking the MINI dependence diagnosis as standard.

**Results.** The area under the ROC curve (AUC) was 0.917 (CI=0.867-0.968). The trade-off between parameters was detected for a score of 9, with suitable values of sensitivity and specificity (83.58% and 83.72%).

**Conclusions.** The results support the use of the SDSS for the diagnosis of alcohol dependence and for assessment the severity of dependence. Administration of this scale makes it possible to obtain information, with a single score, on how severe the disorder is and whether the dependence criteria have been met.

Keywords: Severity dependence, Sensibility, Specificity, Validation, Alcohol dependence, Alcohol, SDSS

Actas Esp Psiquiatr 2015;43(3):99-108

Correspondence: Óscar M. Lozano Universidad de Huelva. Dpto. Psicología clínica, experimental y social Campus de 'El Carmen' Avda. Fuerzas Armadas, s/n. 21071 Huelva (Spain) Tíno: +34 959 21 92 00 E-mail: oscar.lozano@dpsi.uhu.es

## Evidencias de validez, sensibilidad y especificidad de la dimensión de gravedad de la dependencia a alcohol de la SDSS

Introducción. El éxito terapéutico en el tratamiento de los trastornos por consumo de alcohol depende en gran medida de un adecuado diagnóstico. La *Substance Dependence Severity Scale* –SDSS– es una escala que evalúa la dependencia en términos dimensionales y que sigue los criterios diagnósticos establecidos por los sistemas de clasificación internacionales. El objetivo de este trabajo es aportar evidencias de validez de la dimensión de gravedad de la escala de dependencia a alcohol de la SDSS, relacionándola con la *Mini International Neuropsychiatric Interview* –MINI–, y con otras variables de consumo recogidas en el EuropASI.

Metodología. Participaron 109 pacientes admitidos a tratamiento en el Centro Provincial de Drogodependencias de Huelva que habían consumido alcohol en el mes previo a la entrevista. Se administraron la SDSS, la MINI y la Europ-ASI. La capacidad diagnóstica de la SDSS ha sido evaluada a través del análisis de la curva Característica Operativa del Receptor (COR) tomando como estándar el diagnóstico de dependencia de la MINI.

**Resultados.** El valor del Área Bajo la Curva (ABC) fue de 0,917 (IC=0,867-0,968). El equilibrio entre parámetros se detectó para una puntuación de 9, con unos adecuados valores de sensibilidad y especificidad (83,58% y 83,72%).

**Conclusiones.** Los resultados apoyan el uso de la SDSS para el diagnóstico de dependencia a alcohol y la evaluación de su gravedad. La administración de esta escala permite obtener información, con una única puntuación, sobre cómo de grave es el trastorno y sobre si se cumplen o no los criterios diagnósticos de dependencia.

Palabras claves: Gravedad dependencia, Sensibilidad, Especificidad, Validación, Dependencia alcohol, Alcohol, SDSS

## INTRODUCTION

Alcohol is currently the most consumed substance in the Western countries and one of the drugs having the greatest impact on the health of the population.<sup>1</sup> It is the substance having the highest prevalence of consumption in Spain. A total of 78.7% of 15-64 year old persons have consumed it in the last year, this prevalence being greater than that of tobacco (40.2%), which occupies the second place. In addition, this substance is the one that generates the most substance-consumption disorders in our country. In agreement with the recent data published by the Spanish Observatory of Drug Addiction, during 2009, admissions for treatment of alcohol consumption exceeds that for consumption of cocaine and opiates.<sup>2</sup> In this sense, treatment of the disorders associated to alcohol consumption acquires great social-health importance.

In the clinical setting, diagnosis of disorders due to alcohol consumption is complex. However, an effort must be made to reach an adequate diagnosis, since therapeutic success in the treatment of disorders due to substance consumption largely depends on an adequate diagnosis.<sup>3</sup> Generally, this diagnosis is made through interviews using the reference of the diagnostic criteria of the DSM and ICD classification systems. These criteria can be studied with non-standardized methods or using semi-structured interviews that include standardized scales for their evaluation. In these cases, if the DSM-IV<sup>4</sup> criteria are followed, establishing a diagnosis corresponding to the absence of the disorder, alcohol abuse disorder or alcohol dependence disorder is commonly done.

On other occasions, however, clinicians and investigators are interested in evaluating the severity of alcohol dependence. Under this approach, the presence or absence of disorders due to alcohol consumption are not evaluated *per se*, but rather an attempt is made to situate the patients on a severity continuum. This is the approach followed in the DSM-5,<sup>5</sup> which establishes severity categories (mild, moderate and severe) in the patients. The reasons for using this approach for evaluation can be diverse. For example, evaluating severity is useful to know the reach of the problem related with the alcohol in the patients and to establish an intervention plan.<sup>6</sup> On other occasions, it is used as a measurement of the outcome to evaluate an intervention or to monitor the course of the patients in the therapeutic process.<sup>7,8</sup>

There are different scales for evaluating the severity of alcohol dependence. The specialized literature shows that there are currently different scales adapted to Spanish to perform this diagnosis, for example, the *Severity of Alcohol Dependence Questionnaire*,<sup>9</sup> the *Severity of Dependence Scale* -SDS-<sup>10</sup> or the *Leeds Dependence Questionnaire* -LDQ-.<sup>11</sup> Even though the utility of these is unquestionable, these

have the disadvantage that the items making up the scales do not follow the diagnostic criteria established by the international classification systems. Thus, their diagnostic equivalence with such systems may be questioned.<sup>12</sup>

Recently, the Spanish version of the Substance Dependence Severity Scale (SDSS) was developed, and showed adequate psychometric properties.<sup>13</sup> This scale was developed to evaluate severity of dependence to different psychoactive substances,<sup>14</sup> among them alcohol. This was made up of 11 items evaluating the seven diagnostic criteria of dependence specified in the DSM-IV (see items in Annex). In the case of alcohol, the scores range from 0 (absence of dependence severity) and 43 (maximum severity of dependence). Furthermore, this scale establishes that when a diagnostic criterion is scored with a diagnostic criterion is scored with a value of 2 or higher (in some of the items used to measure it), the patient meets said diagnostic criterion. Thus, consistent with the criteria of DSM-IV, the diagnosis of dependence is established when three or more criteria are coded with a severity value of 2 or higher. Another one of the characteristics found in this scale is that the time period evaluated includes the last 30 days. As the authors indicate,14 this time framework is more sensitive to the changes of the patients than that established in the last 12 months. That is why the scores of this instrument can also be used as an indicator of the results of the effectiveness of the treatment during the therapeutic process. This is a novelty, since up to now the results of the treatment of addiction have not been measured as a reduction in severity of the disorder per se (as occurs, for example, with depression, using the Hamilton scale), but rather through other indicators related with the disorder but are not the disorder itself, among them: decrease in consumption, increase of maintenance or reduction of the problems related with consumption.

Although the SDSS evaluates substance dependence, no previous studies have been found for the Spanish or English version on the equivalence of their scores with other dependence diagnostic instruments. This type of study is useful both for the clinical practice and for research. In this sense, the sensitivity and specificity studies provide evidence on the capacity of a diagnostic test to classify correctly the subjects, in accordance with a standard pattern used as benchmark. Within the setting of the addictions, among the scales measuring dependence to alcohol, the *Mini International Neuropsychiatric Interview* (MINI)<sup>15</sup> is one of the most used as a standard pattern for the studies of validation of scales.<sup>16-19</sup>

Considering the above, the present work aims to provide evidence on validity of the scale of alcohol dependence of the SDSS based on another commonly used instrument in the evaluation of this disorder, such as the MINI.

## METHOD

### **Participants**

The sampling framework of the study is made up of patients with drug consumption abuse or dependence seen between April 2010 and April 2013 in the Drug Abuse Services of Huelva (SPDH). During this time, 201 patients voluntarily agreed to participate in the study. Of these, 109 reported they had consumed alcohol during the month prior to the interview.

Men accounted for 79.8% of the sample, with mean age 39.8 years (SD=9.445). The subjects had a mean of 7.27 (SD=2.275) years of compulsory education and 28.4% had initiated upper level studies. In the sample, 31.7% of the patients stated they had been working the month prior to the interview although only 22% had stable work during the entire month. The main sources of income were unemployment benefits and retirement benefits (29.7%), employment (22.9%), receiving of other social aids (22%) and family aid (18.3%). The principal source of income for the remaining percent (7.1%) came from illegal activities or other nonspecified sources. In regards to the substance consumption pattern, 34.9% stated they had consumed alcohol daily the month prior to the interview while 13.7% did so 15 to 29 days before it. In addition to alcohol, other drugs consumed by the participants during the month prior to the interview were: cannabis (42.2%), cocaine (22.9%), benzodiazepines (8.2%), heroin (6.4%) and hallucinogens (2.7%).

In relation to the presence of other mental disorders, following the DSM-IV criteria, 61.8% had symptoms consistent with anxiety disorders, the most frequent being symptoms of agoraphobia (39.1%), generalized anxiety disorder (35.5%), anxiety (14.5%) and social phobia (13.6%). The prevalence of patients who presented symptoms consistent with mood state disorders was 38.1%, the most frequent symptoms being those of major depression (25.5%), dysthymia (8.2%) and manic (7.3%). Regarding psychotic disorder, 21.8% of the patients had symptoms consistent with this disorder and 4.5% symptoms consistent with eating disorders.

#### Instruments

### Substance Dependence Severity Scale

The adaptation of the SDSS was performed following the recommendations of specialists in psychometry in the adaptation of tests,<sup>20,21</sup> subsequently collected in the guidelines of the *International Test Comission*<sup>22</sup> for the adaptation of instruments between different cultures. The adaptation studies of this instrument can be found in Vélez-Moreno et al.<sup>13</sup> Sociodemographic information and consumption pattern. The sociodemographic information related with the consumption pattern used in the present study was collected with the Spanish version of the EuropASI interview.<sup>23</sup>

Alcohol dependence Scale of the Mini International Neuropsychiatric Interview.<sup>15</sup> This is a diagnostic scale following the DSM-IV and ICD-10 criteria, whose Spanish version was developed with a sample of 551 subjects seen in mental health and primary care centers.<sup>24</sup> It is made up of seven dichotomic response items (yes-no) coinciding with the diagnostic criteria established in the diagnostic classifications. As in these, a subject is diagnosed of Alcohol Dependence Disorder if he/she has three or more diagnostic criteria.

In the present study, the diagnostic agreeing with the DSM-IV criteria was used. The reliability found for this scale, estimated as internal consistency, is 0.888.

### Procedure

The interview session was performed by a clinical psychologist with several years of experience. Before initiating the administration of the tests, the psychologist underwent training in the administration of the SDSS and the remaining instruments applied in the study. The guidelines of the scale administration manual were followed and 15 practice interviews were performed before initiating the field work, these being eliminated from the analyses.

To access the participants, the psychologists and psychiatrists of the centers informed the patients that they were carrying out a study. These were informed about its duration, voluntary characters and that it was anonymous. They were also told that this was a study outside of the therapeutic process they were following. After, those who agreed to participate were sent to a room of the SPDH where the interviewer received them. After introducing him/herself, the patients were informed about the study objectives and any doubts they had about the performance of the study were solved. Those patients who agreed to participate had to sign an informed consent, authorizing the research team to use the data collected for their statistical analysis.

The interview session was approximately 60-90 minutes. At the end, the interviewer gave each participant a 10 Euros voucher to use in a supermarket of the city, except for the purchase of alcoholic drinks.

## Analysis

Descriptive statistics were used to characterize the sample and the  $\chi^2$  or Student's T test were applied, as pertinent, to analyze the independence or differences between groups. To analyze the relations between continuous variables, Pearson correlations was applied.

Table 1

Relation between Sociodemographic information and consumption with the SDSS scores

		SDSS Score	Statistics	р
Total in sample		12.9	-	-
Gender				
Man		12	t=2.886	0.092
Women		16.5		
Age - mean (SD)-		-	r=0.034	0.727
Years basic-middle education	- mean (SD)-	-	r=0.218	0.022
Work status in the last month				
Unemployed		12.4	t=0.065	0.799
Employed		12.9		
Principal source of income				
Work		14	F=61.694	0.157
Pension/unemployment benefits		9.8		
Family		14.4		
Drug trafficking		22.2		
Social welfare help		12.7		
Other mental disorders				
Yes		14.97	t=3.127	0.002
No		7.67		
Consumption of other drugs in last month				
Cocaine	Yes	18.7	t=3.071	0.003
	No	11.2		
Heroin	Yes	17.3	t=1.072	0.286
	No	12.6		
Cannabis	Yes	11.6	t=1.045	0.299
	No	13.8		

The Kolmogorov-Smirnov test was applied to contrast normality of the scores of the SDSS, observing a normal distribution of their values (z=1.296; p>0.05). To calculate the validity index of the items, the point-biserial correlation coefficient was applied.

Finally, the ROC curves analysis was used to determine the cutoff score of the SDSS that provided the best values for indicators of sensitivity and specificity.

## Results

## Profile of the participants and alcohol dependence

The mean score on the SDSS scale of alcohol was 12.9 (SD=11.1). Following the criteria of the SDSS, 46.4% fulfilled

the diagnostic criteria of alcohol dependence. Table 1 shows the dependence scores according to the SDSS and the socialdemographic and drug consumption variables. Statistically significant differences were only detected for two of the variables analyzed. There is a statistically significant positive correlation between years of education and dependence score, although this is low (r=0.218, p<0.05). Furthermore, those who had consumed cocaine in the last month had greater severity of dependence than those who had not done so [mean scores of 18.7 (SD=12.5) and 11.2 (SD=10,2) respectively], these differences being statistically significant (t=3.071; g.l.=108, p<0.01).

On the other hand, it was observed that the patients with symptoms consistent with at least one disorder on axis (71.8%) had greater severity of dependence [mean score 14.9 (SD=11.6)] than patients who did not have symptoms consistent with disorders on axis I [mean score of severity 7.7 (SD=7.8)], these differences being statistically significant

Table 2	Validity indexes of the S	DSS items		
DSM-IV Crit	teria Mini item	SDSS item	Biserial score corr. with MINI	Biserial score corr. with
			item	MINI diagnosis
1 (a-b)	А	5	0.688**	0.486**
2 (a-b)	В	6a	0.871**	0.509**
		6b	0.772**	0.448**
		6c	0.352**	0.38**
3	С	1	0.627**	0.566**
4	D	2a	0.624**	0.524**
		2b	0.659**	0.543**
5	E	3	0.628**	0.531**
6	F	4	0.724**	0.369**
7	G	7a	0.371**	0.446**
		7Ե	0.238*	0.238*

Table 3	Diag	noses accor	ding to SDSS	and MINI
		Dependence according to SDSS		Total
		No	Yes	
Dependence	No	34.5	4.5	39.1
according to MINI	Yes	19.1	41.8	60.9
Total		53.6	46.4	100

(t=3,217; g.l.=108; p<0,01).

## Reliability and validity indexes of the items

The estimated internal consistency reliability test (Cronbach's alpha) was 0.881. Estimated reliability as test-retest, in a subsample of 30 participants showed a value of r=0.724 (p<0.05).

The values of the indexes of validity of the items are shown in Table 2. It is observed that the values of the pointbiserial correlations with the corresponding items of the MINI are elevated, and are statistically significant in every case. The correlation coefficient exceeded the value of 0.6 in all the items except for 6c, 7a and 7b. In the latter three items, even though the correlations are statistically significant, the values are moderate.

When the correlation with the presence/absence of dependence are analyzed according to the MINI, all the correlations are also statistically significant. As can be

observed in table 2, the range of correlations goes from 0.238 to 0.566.

# *Evidence of validity based on the relation with other variables*

The analysis of the SDSS in relation with the variables of the EuropASI reflect that the scores on the SDSS show statistically significant relations with the time that the patients have been consuming alcohol, independently of the amount (r=0.220; p<0.05), and alcohol in large amounts (r=0.330; p<0.01). Equally, it is observed that the scores on the SDSS are related with the amount of alcohol consumed in the month prior to the interview (r=0.484; p<0.01) and with frequency of consumption (r=0.305; p<0.01). No relations are observed with age of onset of any dose of alcohol (r=0.111; p>0.05) or with age of onset of large amounts (r=0.004; p>0.05).

## Evidence of validity: sensitivity and specificity

Table 3 shows the diagnoses of dependence on alcohol according to the SDSS and MINI. In 76.3% of the cases, there is agreement according to these instruments, with a Kappa coefficient of 0.53. The percentage of diagnosis of dependence on alcohol according to the MINI is superior to that observed with the SDSS (60.9% and 46.4%, respectively), detecting 4.5% of patients who fulfill diagnostic criteria according to the SDSS but not according to the MINI, and 19.1% of patient who fulfill criteria according to the MINI and not according to the SDSS (Table 3).

The analysis of the ROC curves using as reference the diagnosis according to the MINI showed a value of area



 Figure 1
 COR curves for the SDSS scores

under the curve of 0.917 (Cl=0.867-0.968), this being statistically significant (Figure 1).

The sensitivity and specificity values are shown in table 4. It is observed that the balance between parameters was detected with a score of 9, some values corresponding to 83.58% and 83.72%, respectively. With said score, 83.64% of the sample was correctly classified. The Kappa coefficient for the diagnosis of dependence according to the MINI and according to the diagnosis of the SDSS based on the cutoff of 9 is 0.662.

On the other hand, as evidence of the discriminant validity of the SDSS scores, the area under the curve was calculated using the diagnosis of dependence to different substances of alcohol provided by the MINI was calculated. The value found was 0.552 (Cl=0.444-0.661), this not being statistically significant.

## DISCUSSION

The present work has provided validity evidence of the SDSS alcohol scale in relation with the diagnosis provided by the MINI, another diagnostic instrument of alcohol dependence widely used as a standard pattern in the studies of validation of scales.<sup>16-19</sup> More specifically, the objective has been to offer the clinicians and investigators a study of the convergence of the diagnosis of both scales. The SDSS is the only one recognized by the *National Drug Abuse Treatment Clinical Trials Network* that provides a dimensional measurement of severity of the dependence according to the ICD and DSM criteria.<sup>25</sup> Thus, establishing an equivalence between the scores of this instrument and others commonly

Table 4	able 4     Sensitivity/specificity statistics for the score on the SDSS				
Cutoff	Sensitivity (%)	Specificity (%)	Correctly classified (%)	LR+	LR-
=>0	100	0	60.91	1	
=>1	97.01	34.88	72.73	1.489	0.085
=>2	97.01	41.86	75.45	1.668	0.071
=>3	95.52	46.51	76.36	1.785	0.096
=>4	95.52	62.79	82.73	2.567	0.071
=>5	89.55	67.44	80.91	2.75	0.154
=>6	88.06	72.09	81.82	3.155	0.165
=>7	86.57	74.42	81.82	3.384	0.180
=>8	85.07	79.07	82.73	4.064	0.188
=>9	83.58	83.72	83.64	5.134	0.196
=>10	80.60	90.70	84.55	8.664	0.213
=>11	77.61	90.70	82.73	8.343	0.246
=>12	74.63	93.02	81.82	10.696	0.272
=>13	74.63	95.35	82.73	16.044	0.266
=>14	65.67	97.67	78.18	28.238	0.351
=>15	59.7	97.67	74.55	25.671	0.412
=>16	56.72	100	73.64	-	0.432
LR+ and LR-: positive and negative likelihood rations, respectively.					

LR+ and LR-: positive and negative likelihood rations, respective

used in the diagnosis of alcohol contributes to the improvement of the interpretation of the scores in the field of research and clinical practice.

The SDSS makes it possible to establish the diagnosis of dependence when three or more criteria are fulfilled in accordance with the DSM-IV, although limiting the time period to the 30 days prior to the interview. This is one of the distinctive traits of the SDSS versus other scales that are based on the criteria of the diagnostic classifications, where the time period includes the previous 12 months. This characteristic can be underlying the percentage differences detected between the patients who fulfill diagnostic criteria with the SDSS and the MINI. In the case of the SDSS, the percentage is lower, which could be due to the symptomatic remission when the diagnosis is limited to the month prior to the evaluation. Thus, the SDSS may be more adequate to establish a therapeutic planning in accordance with the current situation of the patients.

The most salient feature of the SDSS is that it offers a dimensional measurement that reflects the severity of the dependence. In this sense, the present validation study has shown two types of empirical evidence that reflect the utility of the dimensional scores. On the one hand, it has been shown that said scores are related with other variables that make up its nomological network of theoretical relations, such as the frequency and amount of alcohol consumed. On the other hand, it has been shown that these scores are related with the diagnosis established by the MINI with high sensitivity and specificity.

These properties convert the SDSS into an instrument of great utility in both the investigator and clinical setting. In the first case, as some authors have pointed out, the fact that this deals with a continuous variable extends the possibilities of the statistical analyses to be used.26 Furthermore, the fact that the diagnosis is based on the criteria of the diagnostic classification of the DSM allows for a simple communication between the scientific community.<sup>27</sup> In the clinical setting, through the administration of this scale, it is possible to obtain information with a single score on the severity of the disorder and on whether it fulfills or does not fulfill the dependence criteria within some adequate parameters of sensitivity and specificity. Furthermore, when the cutoff for the diagnosis of dependence is located in a score equal to or greater than nine, the coefficient of agreement with the diagnosis according to the MINI increases. Therefore, considering that this is a scale that is easy and fast to apply, the SPSS should be considered an adequate instrument for diagnosis and periodic follow-up of the patients. This makes the SPSS a useful tool not only for the professionals of specialized care resources in drug addictions but also for those of primary care. As the World Health Organization indicates in its worldwide strategy to reduce the harmful use of alcohol,<sup>1</sup> the primary care physician plays a fundamental role in the intervention and prevention of the harm associated to the use of alcohol. In spite of this, many at risk drinkers and persons with disorders due to alcohol consumption are not detected in these resources, so that it is recommendable to use a systematized approach.<sup>28,29</sup> This is initially performed using screening tools, those being used the most being the CAGE, CBA and the AUDIT.<sup>30</sup> These instruments make it possible to identify subjects at risk of suffering disorders. After, it is necessary to administer tools that make it possible to diagnose dependence or not,<sup>31</sup> something that is not possible to achieve with the screening tools. On the other hand, the alcohol scale of the SPSS has a similar time of administration as the previously mentioned scales and also offers a conceptual equivalence of the diagnosis of the alcohol dependence disorder. When the severity of this disorder is determined, the clinical professionals are in a position to be able to evaluate referral to specialized resources of the patients or the intervention by the primary care resource itself.

Although this work has provided evidence of the validity of the alcohol dependence scale of the SDSS, some considerations must be taken into account. Following the standards of the APA, AERA and NCME<sup>32</sup> for measurements by test, it is recommendable to provide evidence of validity in other centers and with other profiles of patients. Fundamentally, and considering its utility in the setting of primary care and the mental health services that are not specific for drug addictions, it is of interest for future studies to contrast the properties of this instrument in said context. The different characteristics of the patients who come to primary care and to the health care centers versus patients of drug addiction care<sup>33</sup> may have their repercussion on the psychometric properties calculated with this scale. Thus, for example, the sample of this study has prevalences that are superior to other mental disorders than those observed in patients with alcohol dependence seen in mental health services.<sup>34</sup> And, since the comorbidity is associated to greater severity of the dependence,<sup>35</sup> different distributions of scores in the patients could be expected and, consequently, different values in the calculations of reliability and evidence of validity.

Furthermore, it needs to be stated that the adaptation was made in Spain and with a native population of Spain. However, the Spanish Drug Observatory data indicate that the foreign population seen in the drug addiction services due to alcohol accounts for 6.9%.<sup>2</sup> In this sense, it is also recommendable to design a study to contrast up to what point the current version maintains the psychometric properties found in the native population in other populations.

#### ACKNOWLEDGEMENT

This work forms a part of the research project 'Diagnosis of severity of Psychoactive Substance Dependence according

to DSM-IV criteria. Adaptation to Spanish of the clinical interview Substance Dependence Severity Scale (PI10/01155)' financed by the Instituto de Salud Carlos III and FEDER funds.

#### CONFLICT OF INTERESTS

There are no conflict of interests..

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Annex	Description of the statements of the items on the SDSS scale (to access the complete scale and ma-
	nual, contact the correspondence author)

Item 1. During the last 30 days, ...?

...have there been times in which you have had more to drink that you had intended?

...you ended up drinking for a longer period of time than you had planned, for example until later at night?

Item 2.a. During the last 30 days, ...?

...have you thought you should reduce or control your alcohol consumption or stop completely?

Item 2.b. During the last 30 days, ...?

...have you tried to reduce or control your alcohol consumption?

Item 3. During the last 30 days, ...?

...have you spent too much time in assuring you have alcohol available? ...spent several hours drinking in one day or night? ...have been ill or felt bad, getting over a hangover or being high for one hour or more due to the effects of the drink in one day or one night?

Item 4. During the last 30 days, ...?

...have you spent some time drinking instead of going to work or studying? ...spent some time drinking instead of being with family or friends? ...spent some time drinking instead of doing thing that you previously liked to do, as sports, or some type of usual activity or hobby?

Item 5. During the last 30 days, ...?

...have you found the same amount of alcohol has less effect than before? ...have you found that you need to drink more to achieve the same effect?

Item 6.a. During the last 30 days, ...?

When the effects of alcohol passes, do you sometimes experience (LIST OF ABSTINENCE SYMPTOMS)?

Item 6.b. During the last 30 days, ...?

...how strong were the alcohol effects? In general, would you say there were mild, moderate, severe, or very severe?

Item 6.c. During the last 30 days, ...?

...have you drank to recover from some of the side effects of the drink? ...or drank to avoid some of these side effects?

Item 7.a. During the last 30 days, ...?

...have you been depressed, been feeling down or felt loss of interest for things and this has had some relation with drinking? ...have you been suspicious or distrustful of others, and has this had any relation with the consumption of alcohol or with its side effects? ...have you been uncomfortable or nervous in relation with drinking or its side effects?

Item 7.b. During the last 30 days, ...?

...have you had a health or medical problem cause by or worsened by drinking or its side effects?