Psychometric validation of the POSIT for screening alcohol and other drugs risk consumption among adolescents

Validación psicométrica del POSIT para el cribado del consumo de riesgo de alcohol y otras drogas entre adolescentes

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Abstract

La detección precoz del consumo abusivo de alcohol y otras drogas en adolescentes resulta decisiva no sólo para una derivación e intervención rápida en los casos de riesgo, sino también como un indicador a utilizar en la evaluación de los programas de prevención y en las políticas públicas de reducción del consumo. Uno de los instrumentos de *screening* más utilizados a nivel internacional es el *Problem Oriented Screening Instrument for Teenagers* (POSIT) (Rahdert, 1991), cuya subescala de Uso y Abuso de Sustancias (POSIT$_{UAS}$) constituye una herramienta breve de enorme potencial aplicado. Sin embargo, en España no existe todavía ningún estudio de validación empírica que permita garantizar su adecuado funcionamiento psicométrico. El objetivo del presente trabajo consiste precisamente en analizar las propiedades psicométricas del POSIT$_{UAS}$ en adolescentes españoles. Para ello fueron entrevistados de forma personal 569 estudiantes de entre 12 y 18 años (*M* = 14,71; *DT* = 1,79), seleccionados a partir de un muestreo bietápico. Los resultados obtenidos, utilizando la *Adolescent Diagnostic Interview* (Winters & Henly, 1993) como criterio, permiten informar que la versión española del POSIT$_{UAS}$ posee un excelente comportamiento psicométrico, tanto a nivel de consistencia interna (a=,82), como de sensibilidad (94,3%) y especificidad (83,9%), con un área bajo la curva ROC de ,953. Asimismo, la realización de un Análisis Factorial Confirmatorio permite constatar el carácter unidimensional de la escala. Como consecuencia se pone a disposición de investigadores y profesionales del ámbito de las conductas adictivas el POSIT$_{UAS}$, que puede ser utilizado en adelante con las garantías psicométricas requeridas.

Palabras clave: Adolescentes; Alcohol; Cribado; Drogas; POSIT.

Resumen

Early detection of alcohol and drug abuse among adolescents is decisive not only for rapid referral and intervention in cases of risk, but also as an indicator for use in the evaluation of prevention programs and public policies to reduce consumption. One of the most widely-used screening instruments in the world is the *Problem Oriented Screening Instrument for Teenagers* (POSIT) (Rahdert, 1991), whose substance use and abuse subscale (POSIT$_{UAS}$) is a brief tool of enormous applied potential. However, there is still no empirical validation study that would ensure its good psychometric performance in Spain. The aim of this paper is to analyse the psychometric properties of POSIT$_{UAS}$ among Spanish adolescents. For this purpose, 569 students aged between 12 and 18 years (*M* = 14.71; *SD* = 1.79) were personally interviewed. The study sample was selected through two-stage sampling. The results obtained, using the Adolescent Diagnostic Interview (Winters & Henly, 1993) as the gold criterion, allow us to inform that the Spanish version of the POSIT$_{UAS}$ has excellent psychometric behaviour, both at the level of internal consistency (a = .82) as well as regards sensitivity (94.3%) and specificity (83.9%), with an area under the ROC curve of .953. Also, the realisation of a Confirmatory Factor Analysis allows for verifying the one-dimensional character of the scale. As a result, POSIT$_{UAS}$ is made available to researchers and professionals in the field of addictive behaviours for use with a minimum of psychometric guarantees.

Key words: Adolescents; Alcohol; Screening; Drugs; POSIT.

Manuel Araujo, Sandra Golpe, Teresa Braña, Jesús Varela, Antonio Rial

The use of alcohol and other substances by adolescents is one of Spain's main healthcare problems. Despite the fact that the results of the most recent National Survey on Drug Use among Secondary School Students [ESTUDES 2014-2015] (National Drug Plan, 2016) reveal a decrease in the consumption of different substances over the last few years, the prevalence rates among students continue to be high. About 76.8% of students between the ages of 14-18 drank alcohol in the last year (68.2% in the last month); 31.4% reported having smoked tobacco in the last year (25.9% in the last month) and 25.4% reported having smoked cannabis (18.6% in the last month). Other substances explored, such as cocaine, ecstasy, amphetamines or hallucinogens, have much lower prevalence rates, under 3%.

Among all of the substances analysed by ESTUDES 2014-2015, alcohol continues to be the psychoactive substance most consumed by adolescents. Within this context, issues that continue to be of concern for professionals and researchers is binge drinking (Farke & Anderson, 2007; Parada et al., 2011) of alcohol, together with the early age of onset of alcohol use by adolescents. According to ESTUDES 2014-2015, 32.2% of adolescents participated in binge drinking in the last month, and 22.2% also report having got drunk. An abundance of literature reveals that this widely extended pattern of use among adolescents today entails serious consequences, not only for the organism (López-Caneda et al., 2014), but also a greater likelihood of involvement in risky behaviours (Huang, Jacobs & Deverensky, 2010; Matali et al., 2016; Miller, Naimi, Brewer & Jones, 2007; Windle, 2003) and of developing a pattern of polydrug use or, possibly, of alcohol dependence/disorder in adulthood (Jones, Oeltmann, Wilson, Brener & Hill, 2001; Petit, Maurage, Kornreich, Verbanck & Campanella, 2014). One variable that influences the likelihood of appearance of many of these consequences and of their seriousness is the age of onset of alcohol consumption (Motos, Cortés, Giménez & Cadaveira, 2015). Such is the case that delaying the age of onset is contemplated as one of the goals of the 2013-16 National Drug Plan (National Drug Plan, 2009a) (general objective 4), as well as of different regional plans, like the 2011-2016 Addiction Disorders Plan of Galicia (Xunta de Galicia [Regional Government of Galicia], 2010) (objective 1.3).

Of no less concern is the abovementioned rate of cannabis use, positioning it as the illegal drug most-used by adolescents. In addition to the levels of use revealed by ESTUDES 2014-15, we must mention that 2.5% (approximately 53,701 adolescents) were identified using the Cannabis Abuse Screening Test (CAST) (Legleye, Piontek & Kraus, 2011) as problematic or users at risk of developing a possible dependency (National Drug Plan, 2016).

In this context, early detection of the use of alcohol and other drugs among adolescents is decisive, not only to fa-

vour fast referrals and intervention in risk cases, but also as an indicator for use when evaluating prevention programs and public policies to reduce use. Therefore, it is necessary to have available screening instruments that have been sufficiently compared on an international level, properly translated and adapted to our culture and, likewise, with sufficient empirical-psychometric guarantees (García, Novalbos, Martínez & O'Ferrall, 2016; Tiburcio et al., 2016).

One of the most widely used instruments in this field has been the Problem Oriented Screening Instrument for Teenagers (POSIT). The POSIT, presented in a publication of the National Institute on Drug Abuse (Rahdert, 1991), is one of the instruments comprising the Adolescent Assessment/Referral System (AARS), the design and development of which had begun in 1987. It was created for the purpose of achieving the timely detection of specific problems in adolescents who used/abused drugs. It is comprised of 139 items with dichotomous (Yes/No) answers, grouped into 10 subscales that evaluate different functional areas of an adolescent's life that may be affected by drug use, one of which is the Substance Use and Abuse Subscale (POSIT$_{UAS}$). This subscale is comprised of 17 items with the objective of screening adolescents that could be at risk of developing a possible substance use disorder or dependence.

Currently, several studies exist on the validation and utility of the POSIT, for the entire scale (Dembo et al., 1996; Knight, Goodman, Pulerwitz & DuRant, 2001; McLaney, Del Boca & Babor, 1994) as well as for some of its subscales (Knight, Sherritt, Harris, Gates & Chang, 2003; Latimer et al., 2004; Latimer, Winters & Stinchfield, 1997; Rumpf, Wohlert, Freyer-Adam, Grothues & Bischof, 2013). The use of the POSIT as a screening tool with adolescents has been pointed out by different authors and institutions, scientific journals, guides and manuals, highlighting the instrument's reliability and validity (Center for Substance Abuse Treatment, 2012; Fuller & Cavanaugh, 1995; McPherson & Hersch, 2000; World Health Organization, 1997; Timken, 2007).

Specifically with regards to the Substance Use and Abuse subscale (POSIT$_{UAS}$), relatively few studies have reported its psychometric properties (Knight et al., 2001, 2003; Latimer et al., 2004, 1997), and, to date, no empirical validation study has been performed in Spain (Bobes et al., 2013). In general, research carried out in other countries has, nevertheless, reported excellent psychometric properties for this scale, conferring it enormous potential on the applied level, given its brevity and simple application.

In conclusion, despite having become one of the most-used evaluation and screening tools worldwide, empirical validation is inexistent for knowing, in reality, the psychometric behaviour of the Substance Use and Abuse Subscale (POSIT$_{UAS}$) with Spanish adolescents. This is, precisely, the main goal of this study. Specifically, two hypotheses will be the object of the empirical study: first that the POSIT$_{UAS}$ is

an adequate tool, in psychometric terms, for the early detection of problems with the use of alcohol and/or other substances by Spanish adolescents and, second, we will verify its one-dimensional character with regards to its internal validity or factorial structure.

Method

Participants

To address these issues, we applied a selective methodology comprised of a personal interview with students of Compulsory Secondary School (ESO), High School and Vocational Training in the autonomous region of Galicia (Spain). Bi-level sampling was used to select the sample: by conglomerates, for selecting the first-level units (school centres) and by quotas, according to gender and level, for selecting the second-level units (individuals).

Though initially 600 adolescents were interviewed, the final sample was comprised of 569 students; 31 were withdrawn due to incomplete interviews or incoherent answers. To guarantee both the absence of bias and randomness in the distribution of the missing cases, we verified that the percentage of the missing cases was similar to the different segments of the sample according to sex, age group, ownership of the school and residential area, therefore calculating χ^2 statistics for comparative purposes.

Males comprised 57.1% and females 42.9% of the sample, aged 12-18 years (M = 14.71; SD = 1.79). Participants were randomly selected from a total of 33 schools (22 public and 11 private). Of these, 69.8% were enrolled in ESO (34.8% in the first year and 35% in the second year), 20.4% were high school students and 9.8% were undergoing basic professional training (Initial Professional Qualification Programmes) or a mid-level Training Programme. Finally, 43.1% lived in urban setting and 56.9% in rural or semirural settings.

Instruments

Data was collected using a structured interview, supported by a survey that included: the Substance Use and Abuse Subscale of the Problem Oriented Screening Instrument for Teenagers (POSIT$_{UAS}$) (Rahdert, 1991), the Adolescent Diagnostic Interview (ADI) (Winters & Henly, 1993) and the CRAFFT Substance Abuse Screening Test (Knight et al., 1999). To prevent possible bias with regards to the order in which these instruments were completed, the interview was properly counterbalanced.

The Spanish language version of the POSIT$_{UAS}$ was used, as provided by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (1998), comprised of 17 dichotomous (Yes/No) answers and theoretical scores between 0-17. The Adolescent Diagnostic Interview (ADI) (Winters & Henly, 1993) was used as the criteria for calculating the sensitivity and specificity of the POSIT$_{UAS}$, comprised of a diagnostic interview with 213 items adapted to DSM-5 criteria (American Psychiatric Association [APA], 2013) for the identification of substance use disorders in adolescents. Prior to its use in this study, the interview was both translated and back-translated under the supervision of its original authors. The different scales analysed obtained a high internal consistency (α = 0.84 for the alcohol use disorder diagnosis; α = 0.87 for the cannabis use disorder diagnosis and α = 0.88 for the substance use disorder diagnosis). Finally, as an additional indicator of criterion validity we also included the CRAFFT, a scale comprised of just 6 items and specifically designed for the screening of hazardous use of alcohol and other substances by adolescents. It was both translated and back-translated under the supervision of its original authors and empirically validated in the study by Araujo et al. (2015), with an internal consistency (Cronbach's α) of 0.74, quite similar to that obtained in the original validation study by Knight, Sherritt, Shrier, Harris & Chang (2002) (α = 0.72).

Procedure

Data was collected through a personal interview at the schools themselves, in offices specifically prepared for this purpose, by a team of psychologists experienced with these types of research studies. Each interview lasted between 45-60 minutes. The participants were informed of the purpose of the study, anonymity and confidentiality of their responses. Consent and collaboration was granted by the directors of the educational centres as well as by the respective students' parent associations. Participation was completely voluntary and without remuneration. The Bioethics Committee of the University of Santiago de Compostela approved the study.

Data analysis

First, a descriptive analysis was performed by calculating percentages, and measures of central tendency and dispersion were obtained. Means were compared by gender (using Student's t test) and age group (using a one-way ANOVA and a Tukey's post-hoc comparison). The suitable KR-20 index for dichotomous variables (Kuder & Richardson, 1937) was calculated to evaluate internal consistency. Confirmatory Factor Analysis (CFA) was performed, based on the tetrachoric correlations matrix, to verify the scale's one-dimensional structure. Given the data metrics themselves and their abnormality, the Unweighted Least Squares (ULS) method was used, which in addition to robustness requires no further assumptions as to its distribution (Jöreskog & Sörbom, 1989). The model's Goodness of Fit was evaluated with the following indexes: GFI (Goodness of Fit Index), the AGFI (Adjusted Goodness of Fit Index) and the NFI (Normed Fit Index).

To analyse the scale's psychometric properties, we calculated sensitivity and specificity indexes as well as the

Manuel Araujo, Sandra Golpe, Teresa Braña, Jesús Varela, Antonio Rial

area under the ROC (Receiver´s Operating Characteristics) curve, as a complement, to define the optimal cut-off point. Finally, to evaluate criterion validity, we analysed the degree of concordance between the POSIT_{UAS} and both the ADI and the CRAFFT. The IBM SPSS Statistics 20 (IBM Corp. Released, 2011) and AMOS 21 (Arbuckle, 2012) software packages were used for data analysis.

Results

Descriptive statistics

First, Table 1 displays the direct responses of the 569 adolescents to each of the 17 items comprising the POSIT_{UAS}, with the percentage of affirmative responses to each. The highest percentages correspond to item 6 ("Do your friends take drugs to parties?") and to item 2 ("Do your friends feel bored at parties where alcohol is not served?"), with 30.2% and 29.3% of affirmative responses, respectively. Furthermore, item 1 ("Do you get into trouble because you use drugs or drink alcohol at school?") and item 10 ("Have you had a car or motorcycle accident while under the effect of alcohol or drugs?"?) resulted in the lowest percentage of affirmative responses (0.5% and 0.7%, respectively).

As to the descriptive statistics for the scale's total score, we must highlight that the overall mean of the POSIT_{UAS} is 1.52 and the standard deviation is 2.34, with the observed scores ranging between 0-15. Statistics for asymmetry and standardised kurtosis reveal the existence of notable positive asymmetry (A = 21.36) and leptokurtic distribution (C = 28.10), thereby revealing that the scores do not adhere to a normal distribution. The absence of normality is also reflected in the distribution of percentiles. Specifically, the 95th percentile corresponds to a score of 6.5 (below the midpoint of the scale). Noncompliance with normality was verified using the Kolmogorov-Smirnov test, with the corresponding Lilliefors correction (K-S = 0.26; p < .001).

Table 2 displays the frequency distribution and cumulative percentages for the different scores. Using the scale's original cut-off point (≥ 2), 32.9% of the sample has a positive result in the POSIT_{UAS}.

When comparing mean scores by sex, though women obtain lower scores than men (1.40 vs 1.62), this difference is not statistically significant (t(563) = 1.15; p = .25). With regards to age, the differences among the established groups (12-14, 15-16 and 17-18 years) are statistically significant (F(2-566) = 80.44; p < .001; η2p = .22), with the group aged 17-18 years having the highest average (3.13), followed by the group aged 15-16 years (2.02) and the group aged 12-14 years (0.41).

Consistency of scores

Internal consistency was calculated as evidence of reliability of the POSIT_{UAS}. Given the dichotomous nature

Table 1. *Percentage of affirmative responses to each item of the POSIT_{UAS}, standardised factor loadings and p-value*

Item	% yes	λ	t
Do you get into trouble because you use drugs or drink alcohol at school?	0.5	.16	5.38***
Do your friends feel bored at parties where alcohol is not served?	29.3	.42	7.20***
Have you accidentally hurt yourself or someone else while under the effect of alcohol or drugs?	4.7	.47	10.08***
Are you sometimes unable to participate in activities because you have no money due to having spent it on drugs or alcohol?	3.7	.41	10.34***
Do you sometimes feel that you are addicted to alcohol or drugs?	3.7	.47	10.53***
Do your friends take drugs to parties?	30.2	.60	9.43***
Have you started consuming higher amounts of drugs or alcohol each time to obtain the desired effect?	7.6	.51	10.25***
Do you sometimes leave parties because there are no alcohol or drugs?	3	.46	9.64***
Do you constantly feel the urge to drink alcohol or take drugs?	1.2	.30	7.95***
Have you had a car or motorcycle accident while under the effect of alcohol or drugs?	0.7	.28	8.20***
Do you forget the things you did while using alcohol or drugs?	13.9	.66	10.10***
Does using alcohol or drugs provoke fast mood changes, like shifting from being happy to feeling sad, or vice versa?	19.3	.67	10.03***
Have your family members or friends ever told you that you should reduce your use of alcohol or drugs?	9.5	.57	10.68***
Do you have serious discussions with your family members or friends about your use of alcohol or drugs?	3	.36	8.99***
When you drink alcohol or use drugs, do you tend to do things you normally would not, like disobey rules, break the law or arrive home late?	16.9	.70	10.42***
Do you have difficulties in your relationships with any of your friends due to your use of alcohol or drugs?	1.6	.25	6.23***
Do you sometimes feel that you are unable to control the urge to drink alcohol or take drugs?	3.5	.42	7.95***

Note. *** p ‹ .001.

Table 2. *Frequency distribution for the total POSIT$_{UAS}$ scores.*

Total Score	Frequency	Valid percentage	Cumulative percentage
0	288	50.6	50.6
1	94	16.5	67.1
2	61	10.7	77.9
3	33	5.8	83.7
4	35	6.2	89.8
5	15	2.6	92.4
6	15	2.6	95.1
7	9	1.6	96.7
8	9	1.6	98.2
9	2	0.4	98.6
10	3	0.5	99.1
11	1	0.2	99.3
12	2	0.4	99.6
14	1	0.2	99.8
15	1	0.2	100

of these items, it was evaluated by calculating the KR-20 index, obtaining a value a of .82. Pardo and Ruiz (2001) usually consider values above .80 as meritorious. The consistency of each item was also analysed individually using the Corrected Homogeneity Index (CHI), resulting in values between .20 and .60. Items 1 and 16 showed the least consistency with the scale as a whole. However, deleting either one did not improve the scale's global consistency at all (Table 3).

Validity evidence of internal structure

Literature hardly addresses the dimensionality of the POSIT$_{UAS}$. Most studies offer a global score that is interpreted on the basis of a cut-off point, assuming the scale's one-dimensional structure, supported by its high internal consistency. This study attempts to take a step further in this regard by performing a Confirmatory Factorial Analysis (CFA) to provide evidence of internal validity, corroborating its one-dimensional structure. The obtained GFI (Goodness of Fit Index); AGFI (Adjusted Goodness of Fit Index) and NFI (Normed Fit Index) showed quite acceptable values (GFI = .983; AGFI = .978 and NFI = .962) in accordance with the criteria of Byrne (2009) and Kline (2005), and were practically identical for men (GFI$_M$ = .979; AGFI$_M$ = .973 and NFI$_M$ = .958) and women (GFI$_W$ = .977; AGFI$_W$ = .971 and NFI$_W$ = .944). Nevertheless, we performed an analysis of factorial invariance in accordance with the guidelines set forth by Byrne (2009), and found that comparing the different models or levels of restriction suggest the same factorial structure for male and female adolescents with regards to factorial saturation (Δc^2 = 24.79; p = .13), though this was not the case for measurement errors (Δc^2 = 126.78; p < .001).

Sensitivity, specificity and ROC curve

Table 4 displays the values for sensitivity and specificity for the different cut-off points. As shown, cut-off point 2 has the greatest equilibrium between sensitivity (94.3%) and specificity (83.9%). In other words, the subscale is capable of detecting true positives in 94.3% of the cases, and of rejecting real negatives in 83.9% of the cases; both results are highly acceptable. Complementarily, we performed a ROC (Receiver Operating Characteristic) curve analysis, obtaining an area under the curve of .95 (Figure 1).

Adopting cut-off point 2 and analysing the psychometric properties of the POSIT$_{UAS}$ according to sex, the results are very similar, though the specificity of the scale is slightly penalised in the case of women (80.4%). As regards age, the results are acceptable for the three age groups considered, especially for the group aged 12-14 years (sensitivity = 100% and specificity = 94.4%), with worse specificity for the two other groups.

Validity evidence of correlation with external variables

To study criterion validity, we first compared the percentage of adolescents with positive results in the POSIT$_{UAS}$ and in the ADI (32.9% and 21.4%, respectively), obtaining a Kappa concordance index of .66 (p < .001). Second, we performed the same comparison of the POSIT$_{UAS}$ and the CRAFFT, with the percentage of positive results in the latter of 22.8%, obtaining a Kappa concordance index of .63 (p < .001). Finally, we also calculated the Pearson correlation coefficient for both CRAFFT and the POSIT$_{UAS}$ scores,

Tabla 3. *Consistency of POSIT$_{UAS}$ items.*

Item	KR-20 if the item is deleted	CHI
1	.822	.204
2	.824	.362
3	.810	.468
4	.812	.452
5	.810	.478
6	.810	.513
7	.807	.497
8	.812	.466
9	.819	.322
10	.819	.337
11	.801	.565
12	.802	.562
13	.804	.540
14	.814	.395
15	.798	.602
16	.820	.260
17	.811	.461
GLOBAL	0.821	

the results of which were quite high and statistically significant (rxy = .80; p <.001).

Discussion

Adolescence is a critical period during which youth typically start using and experimenting with psychoactive substances (Gonzálvez, Espada, Guillén-Riquelme, Secades & Orgilés, 2016). In Spain, abusive consumption of alcohol and other drugs among minors has become one of the country's main public health problems, as reflected in the 2009-2016 National Strategy on Drugs (National Drug Plan, 2009b). According to experts, the success of prevention policies, to a great extent, depends on promoting early detection of risk cases, as well as in periodically monitoring the detected levels.

Though the POSIT is one of the evaluation and screening tools most used by professionals and researchers worldwide in the field of addictive behaviours, we still lack specific psychometric data that enables our use of this instrument with certain guarantees to date in Spain.

The analyses performed on the basis of a sample of 569 students from the region of Galicia allows us to verify that the POSIT$_{UAS}$ has good psychometric behaviour. First of all, its internal consistency is actually high (α= .82), in line with the findings of other validation studies that coincide in highlighting that the POSIT$_{UAS}$ is one of the most consistent tools (Knight et al., 2001; Mariño, González-Forteza, Andrade & Medina-Mora, 1998).

Second, in terms of screening, it displays a meritorious equilibrium between sensitivity (94.3%) and specificity (83.9%) for cut-off point 2 mentioned in literature. Furthermore, the results obtained by segments show that the POSIT$_{UAS}$ has excellent behaviour for both male and female

adolescents, as well as across different age groups, though specificity is slightly lost as age increases, which suggests considering the possibility of raising the cut-off points. However, it is important to highlight that, as mentioned by Latimer et al. (1997), when faced with a screening tool, maximising sensitivity is most critical, given that the priority of these types of instruments is to prevent the erroneous lack of detection by the screening (false negative) of an adolescent with a drug abuse problem.

The high sensitivity of the POSIT$_{UAS}$ has also been shown when comparing the percentage of positives obtained with this tool (32.9%) with those obtained with the CRAFFT (22.8%), as already pointed out in the study by Golpe et al. (2016). Even so, high concordance with both the CRAFFT and the ADI evidences its high criterion validity.

As regards the subscale's dimensionality, though literature hardly addresses the issue, the performance of a CFA allowed for verifying its one-dimensional structure, thereby providing new support for studies like those by Knight et al. (2001), Latimer et al. (1997), Mariño et al. (1998) and Rumpf et al. (2013), which implicitly assume this one-dimensional structure.

In consequence, given our results, we may confirm the satisfactory psychometric behaviour of the Substance Use and Abuse Subscale (POSIT$_{UAS}$), which may be used with guarantees by researchers and professionals in Spain in the field of addictive behaviours.

From the applied perspective, this study's results entail some interesting implications. First, the validation of the POSIT$_{UAS}$ for use with Spanish adolescents is interesting to the extent that it may be included in future editions of the official information system available in Spain on substance use among Secondary School Students, the ESTUDES. Second, counting with a validated instrument for early de-

Table 4. *Psychometric properties of the POSIT$_{UAS}$ for different cut-off points.*

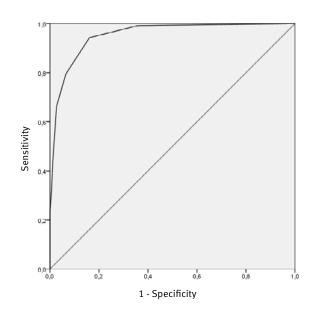|		Sensitivity (%)	Specificity (%)	ROC CURVE
Cuf-off ≥ 1		99.2	64.2	.953
Cuf-off ≥ 2		94.3	83.9	
Cuf-off ≥ 3		79.5	93.5	
Cuf-off ≥ 4		66.4	97.3	
		Sensitivity (%)	Specificity (%)	ROC CURVE
				Cuf-off ≥ 2
Sex	Males	94.8	86.7	.963
	Females	93.3	80.4	.938
Age	12-14 years	100	94.4	.997
	15-16 years	90.2	73	.899
	17-18 years	96.8	64.4	.917

Figure 1. Curva ROC del POSIT$_{UAS}$

tection of the hazardous use of alcohol and other drugs by adolescents, such as the POSIT$_{UAS}$, could be the basis for developing an early detection and brief intervention system in Spain, similar to the SBIRT (Screening, Brief Intervention and Referral to Treatment) used in the United States of America (Laespada, 2014). This procedure is used for detection, prevention, intervention and referral to treatment for adolescents with problematic substance use. Last of all, the availability of screening tools that have been properly adapted and validated in our country would contribute toward a more thorough and objective evaluation of implemented prevention programs, and toward regular follow-up of the detected hazardous consumption levels.

Nevertheless, it is important to point out some of this study's limitations. From the point of view of the sample, we must mention that, despite the size of almost 600 adolescents (a sample size similar to, or even higher than, other validation studies) (Knight et al., 2001, 2003; Latimer et al., 1997), it is still insufficient for assessing the instrument according to different sociodemographic segments. On another hand, the fact that the sample comprised exclusively adolescents from the autonomous community of Galicia in itself is a determinant factor of external validity. Even though students from both public and private schools were included, residents of urban and rural or semirural settings, obviously future studies must consider analysing the psychometric behaviour of the subscale in other communities.

It would also have been interesting to have information available about some clinical aspects of the sample, such as a diagnosis of comorbid disorder, family history of the disorder, etc. However, we must also draw attention to the fact that this has been the initial validation study performed in a school setting, the context in which the most immediate use of the instrument is intended.

Finally, the fact that data collection took place in schools instead of through clinical interviews per se in healthcare settings results in self-reporting of all variables; therefore, it is impossible to know with absolute certainty the extent to which the adolescents may have actually underestimated or overestimated their consumption levels. Nevertheless, as already previously mentioned by different experts in the field of addictive behaviours, self-report measures have proven to be reliable and even better than other methods for evaluating levels of consumption of alcohol and other drugs (Babor, Kranzler & Lauerman, 1989; Winters, Stinchfield, Henly & Schwartz, 1990).

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Conflict of interests

The authors of this article declare the inexistence of conflicts of interest.

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