Short Communication

Translation and psychometric properties of a Spanish version of the College Alcohol Problems Scale

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HIGHLIGHTS

- Describes Spanish translation of College Alcohol Problems Scale
- Two-factor model, Social problems and Personal problems, as in English measure
- Two subscales had acceptable internal consistency (0.73–0.76).
- Subscales had medium-size correlations ($rs = 0.59$ and 0.61) with heavy drinking.
- Measure appropriate for research or clinical work with Spanish-speaking students

ARTICLE INFO

ABSTRACT

Hispanic and Spanish-speaking college students are under-represented in alcohol intervention and prevention research. There is a need for brief, empirically validated Spanish versions of measures related to alcohol use and consequences. The objective of this study was to translate the 8-item College Alcohol Problems Scale (CAPS) into Spanish and evaluate the psychometric properties of this measure compared to the original English. Bilingual experts in interventions for Hispanic college students and youth used a translation back-translation process. 125 Hispanic undergraduate students from a large southeastern public university completed the CAPS and a heavy drinking measure in Spanish. The two-factor model had acceptable model fit in Spanish, χ^2 ($df = 19$) = 27.60, $p = 0.091$; CFI = 0.966 RMSEA = 0.060. Internal consistency of the personal problems subscale was 0.76, and the social problems subscale was 0.73. The two latent factors explained 24–66% of variability in items. Personal problems and social problems were both significantly correlated with heavy drinking, $r = 0.61$, $p < 0.001$, $r = 0.59$, $p < 0.001$, respectively. This Spanish version of the CAPS is a reliable and valid measure of consequences of alcohol use, and has similar psychometric properties to the original English version. This measure may be useful for future research, intervention, and prevention with samples of U.S. Hispanic college students or Spanish-speaking students in other nations.

1. Introduction

Risky drinking is a serious public health problem for college students, with estimates for 2014 that show U.S. adults 18–22 years old have higher rates of binge drinking than any other age group, with college students even higher than their same-age peers (33% vs. 38%; Substance Abuse and Mental Health Services Administration [SAMHSA], 2016). Rates of alcohol use disorders for adults 18–22 years old are about twice other ages (SAMHSA, 2016). Binge drinking

increases risks for many adverse consequences, including blackouts, physical injuries, and unprotected sex (American College Health Association [ACHA], 2011). Further, about 5000 people under 21 die every year from alcohol (White & Hingson, 2013), and alcohol problems are estimated to cost up to $62 billion/year (Miller, Levy, Spicer, & Taylor, 2006). Extreme binge drinking (typically defined as 10 + and/or 15 + drinks per occasion), likely confers even greater risks (Hingson & White, 2013), and is also higher for 18–22 year-old college students than any other life stage (12% vs. 5%, respectively; Johnston,

O'Malley, Bachman, Schulenberg, & Miech, 2015).

Binge drinking rates for Hispanic college students 18–22 years old are second-highest, only to non-Hispanic whites (SAMHSA, 2016). Hispanics are also the second largest ethnic group, and fastest-growing minority group, in U.S. colleges (National Center for Education Statistics [NCES], 2015). Although matriculation in a U.S. college generally requires English proficiency, some U.S. Hispanic students may prefer to speak Spanish. Spanish measures will usually be required for research with college students in Latin America. Levels of heavy drinking for Latin American college students appear to be similar to those in the U.S. (Karam, Kypri, & Salamoun, 2007). Although the heterogeneity of Latin American nations limits generalizations, college enrollment in this region appears to be growing rapidly, with one estimate of over 40% increase from 2001 to 2011 (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2014). Despite these increases, there is relatively little research or prevention programs designed for U.S. Hispanic or Spanish-speaking college students in Latin America. Research, prevention, and intervention with this growing group of college students, including U.S. Hispanics and people across Latin America, requires measures, e.g., of alcohol-related consequences, in English and Spanish.

There are four widely-used measures of alcohol problems or consequences in college students (e.g., Ham & Hope, 2003). The Rutgers Alcohol Problems Index (RAPI, White & Labouvie, 1989) is a 23-item, self-report measure originally developed for adolescents, and later modified for college students. The Young Adult Alcohol Problems Screening Test (YAAPST; Hurlbut & Sher, 1992) is a 27-item scale of problems developed specifically for college students. The Young Adult Alcohol Consequences Questionnaire (YAACQ; Read, Kahler, Strong, & Colder, 2006) is a 48-item multi-scale self-report measure with a brief 24-item short-form (Kahler, Strong, & Read, 2005). Although these three measures have empirically supported Spanish translations (González, Riveros, Uribe, & Luna, 2006; López-Núñez, Fernández-Artamendi, Fernández-Hermida, Álvarez, & Secades-Villa, 2012; Pilatti, Read, & Caneto, 2016), the 8-item revised College Alcohol Problems Scale (CAPS; Maddock, Laforge, Rossi, & O'Hare, 2001), does not have a Spanish translation, which could be a problem if time is a limiting factor in assessment. Consistent with the CAPS original purpose to create a brief measure of alcohol consequences, this study aimed to 1) translate the original English CAPS into Spanish, and 2) assess reliability, factor structure (i.e., two factors), and validity of the Spanish translation in a sample of Hispanic college students in the U.S.

2. Methods

2.1. Participants and design

Participants completed all measures in Spanish after completing a consent form. They received course credit for participation in this study, which was combined with another survey-based study. Participants were 125 Hispanic undergraduate college students at a large, southeastern public university. To be eligible students had to be enrolled in a psychology course, self-identify as Hispanic, understand Spanish, and be 18–25 years old. Alcohol consumption was not an inclusion criterion.

2.2. Translation process

According to established protocols for the translation and adaptation of instruments, the CAPS was first translated from its original English version to Spanish by two bilingual, Spanish/English, mental health professionals with experience working with Hispanic youth and families. Each separately translated the English items into Spanish, and then discussed the meanings of their translations, and agreed on a Spanish version. The translated Spanish version of the instrument was then forwarded to two bilingual (Spanish/English) mental health

professionals with experience with Hispanic college students for a back-translation into English. Each separately back-translated the Spanish measure, discussed differences in their translations, and agreed on a final back-translation. The final back-translation was then compared to the original English by the first author. The Spanish and English proficiencies of all translators are equivalent to that of native speaker with at least college level of education.

2.3. Measures

College Alcohol Problems Scale (CAPS; Maddock et al., 2001) is an 8-item scale developed for college students. Items are about common problems related to alcohol abuse. Students respond to each item to describe the frequency of each problem on a scale from *never* (1) to *10 or more times* (6) over a period of 3 months. A student who never drank alcohol would have a score of one for each item, i.e., consequence never occurred, with a score of four on either subscale. The original English version of the CAPS has two subscales, Personal Problems and Social Problems, supported by CFA with a large study of college students. Personal problems are emotional difficulties, e.g., anxiety or irritability. Social problems refers are risky behaviors, e.g., drinking and driving. The CAPS has been linked to alcohol use and attitudes about alcohol in college students. Items in Spanish and English are shown in Table 2.

Heavy Drinking was measured with the Alcohol Use Disorders Identification Test Consumption (AUDIT-C; Bradley et al., 2007). This scale has the first three consumption items from the full 10-item AUDIT (Babor, Higgins-Biddle, Dauser, Higgins, & Burleson, 2005). Each item was scored on a five-point scale from 0 to 4, with a total score ranging from 0 to 12 points. A total score greater than three is one commonly-used cutoff for heavy drinking in men, and two for women (Bradley et al., 2007; Bush, Kivlahan, McDonell, Fihn, & Bradley, 1998). The AUDIT-C was available from the developers in Spanish and English.

3. Results

3.1. Characteristics of participants

Participants were, on average, just under legal drinking age in the U.S. ($M = 20.81$, $SD = 1.74$). There were a high proportion of heavy drinkers (82%) in this sample. About half (48%) of the students were born outside the U.S. Those born outside the U.S. had spent on average about 12 years in the U.S., ($M = 12.30$, $SD = 5.87$). Table 1 shows participants' characteristics.

3.2. Factor structure

CFA in Mplus 7.2 (Muthén & Muthén, 2012) tested whether the two-factor found with the original English CAPS (Maddock et al., 2001)

Table 1
Characteristics of Hispanic college student sample.

Characteristic	N	%
Women	97	78%
Born in U.S. (not Puerto Rico)	65	52%
Heavy drinking	102	82%
Year in college		
1st year	116	25%
Sophomore	83	18%
Junior	130	28%
Senior or beyond	129	28%
	M	*SD*
Age, years	20.81	1.74
Years in college	2.87	2.00
Years in U.S., if born elsewhere	12.30	5.87

Note. Heavy drinking defined as high score (> 2 women; > 3 men) on the AUDIT-C.