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Validación de una adaptación en español de la escala de Trice para medir el locus de control en estudiantes universitarios

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Resumen

El objetivo de este estudio fue adaptar la *Academic Locus of Control Scale for College Students* (Trice, 1985) a una población de estudiantes universitarios venezolanos, así como, evaluar la confiabilidad y validez de la escala traducida. Se administró dicha adaptación a una muestra de 179 estudiantes de la Universidad Simón Bolívar. Se llevaron a cabo análisis estadísticos, tales como el coeficiente de Cronbach y el análisis de componentes principales. Adicionalmente, se correlacionaron los resultados de la escala con la calificación promedio auto reportada por los estudiantes. Los resultados muestran que la confiabilidad de la escala adaptada al español es apenas aceptable; además, el análisis de componentes principales reveló una estructura de cuatro factores muy diferente de la versión original en inglés. Se ofrecen posibles interpretaciones y se sugiere ahondar en esta línea de investigación.

Palabras clave: Locus de control académico; validez; confiabilidad; traducción inversa; estudiantes universitarios.

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Validation of a Spanish adaptation of Trice´s academic locus of control scale for college students

Abstract

The aim of the present study was to adapt the Academic Locus of Control Scale for College Students (Trice, 1985) to a population of Venezuelan university students, as well as, evaluating issues of reliability and validity of the translated scale. The resulting Spanish adaptation of the ALC was administered to a sample of 179 students from Universidad Simón Bolivar. Statistical analysis such as Cronbach and Principal Components Analysis, were conducted. Additionally, results from the scale were correlated with students' self-reported grade point average (GPA). Results show that the reliability of the translated scale is barely acceptable; furthermore, the principal component analysis revealed a four-factor structure very different from the original English version. Possible explanations are given and further examination is therefore recommended.

Keywords: Academic locus of Control; validity; reliability; back-translation; college students.

Introduction

Research shows that people differ on their perceptions of control over the events that happen in their lives. While some tend to perceive that fate, luck, other people and other external forces control what happens to them; others perceive themselves to exert such control. Such perceptions of control are labeled as locus of control or LOC (Rotter, 1966). Traditional views on the LOC construct describe it as a dichotomic variable, with individuals showing a tendency towards either an external or an internal orientation. Over the years, this approach has changed. Current views on the construct tend to describe it as multidimensional, dynamic and contingent (Lefcourt, 1981; Levenson, 1973; Nowicki and Strickland, 1971; Russell, 1982; Weiner, 1985). In other words, LOC is not a static trait in a person, but may vary according to time, context and situation. Children might be internally oriented in early years and develop to be more externally oriented. People might show an internal orientation to explain their personal relationships, but might exhibit a more external orientation in terms of their academic performance.

Research on LOC is extensive and has expanded to include a wide number of domains and situations (Halpert and Hill, 2011; Lefcourt, 1981) ranging from job satisfaction (Judge and Bono, 2001; Meyer, Stanley, Herscovich and Topolnytsky, 2002;), health (Wallston and Wallston, 1978; Wallston, Wallston and Devellis, 1978) to learning and

academic achievement (Findley and Cooper, 1983; Nunn and Nunn, 1993; Stipek and Weisz, 1981). Considering the variety of domains in which LOC has been researched and its contingent nature, an array of scales to measure it has been developed (Halpert and Hill, 2011).

For example, Rotter's original scale (Rotter, 1966) was designed to measure general life's expectancies; Nowicki and Strickland's (1971) scale measures LOC specifically in children; and Walltons and Wallston (1978) offered a review of three methods of measuring LOC in health-specific situations (unidimensional scales, multidimensional scales and alternative methods using self-reports). More recently, Halpert and Hill (2011) have identified and reviewed a total of 28 measures of LOC classified in 5 broad categories. In short, the abundance of existing scales for measuring LOC evidences the breadth of research on the construct, its wide-ranging application and its situation-specific and context-related nature.

A particular area of interest, and the focus of this article, has been the relationship of LOC to academic performance and achievement. As in other fields, many studies have tried to establish a relationship between LOC and success and failure in academic contexts and different scales have been used. The overall assumption of this relationship is that students with an internal LOC will tend to exhibit better academic performance and higher levels of achievement (Agnew, Slate, Jones and Agnew, 1993, Trice, 1985). According to this assumption, internals, who consider they have control over their life, will take responsibility for their failures, monitor and adjust their behavior and regulate their performance. Externals, on the other hand, will display a more passive behavior, since they consider their academic results depend on their professors, luck, fate and other external factors.

With the exception of a few studies (Cassidy, 2012; Findley and Cooper, 1983), most empirical research supports the assumption that internal LOC is related positively to academic achievement both at school (Nunn and Nunn, 1993; Shepherd, Owen, Fitch, and Marshall, 2006; Sisney, Strickler, Tyler, Wilhoit, Duke, and Nowicki, 2000) and college (Curtis and Trice, 2013; Ghasemzadeh and Saadat, 2011; Hasan and Khalid, 2014; Trice, 1985). Furthermore, an indirect relationship between LOC and academic achievement has been found; that is, LOC has been shown to be a predictor of a number of behaviors that in turn predict academic achievement. Such behaviors include, for instance, studying behavior (Bodill and Roberts, 2013); effective note-taking and other study skills (Agnew et al, 1993); self-esteem and general self-efficacy (Krenn, Wuerth, and Hergovich, 2013); vocational outcome expectations (Işik, 2013); stress-coping strategies and trait anxiety (Arslan, Dilmac and Hamarta, 2009), among others.

This brief introduction shows that the there is ample research on the relationship between LOC and academic achievement. Yet, further research on this area is still called for. First of all, a recent review of the literature (Mayora and Fernandez, 2015) reveals an uneven geographical distribution of the studies available. While most studies have been conducted in the U.S. and Europe, and there appears to be a growing interest in South Asia and Africa, studies in Latin America are still scarce. Second, of the few studies known to date, different scales to measure LOC have been used which renders the comparison among studies difficult. Furthermore, the studies available in Latin America (Bolívar and Rojas, 2008; Hernandez and Esser, 2000; Nunes, 2011; Serrano, Bojórquez and Vera, 2009) have resourced to either translated versions of general LOC or scales developed by the authors without considering already existing and validated academic LOC scales. Particularly, our search of such studies have found that, for example, Trice's Academic Locus of Control Scale for College Students (ALC) has not been translated into Spanish or used in any Latin American context.

This represents a considerable void taking into account the specificity of the referred scale and its proven validity and reliability among North American college students (Curtis and Trice, 2013; Trice, 1985; Trice, Ogden, Stevens and Booth, 1987) and non-American populations (see Ibrahim, 1996). Finally, as Dornyei and Taguchi (2010) have pointed out, the process of translating instruments often seems to be taken lightly by researchers, even when this process is of crucial importance for the validity of the instruments being adapted.

Thus, the purpose of the current study is to develop a Spanish adaptation of Trice's ALC and test its psychometric properties in a sample of students at a public university in Venezuela. A broader aim is that this study will further future research in the field in a less frequently studied context by providing an adapted instrument known for its validity and reliability.

Theoretical foundation

Scales for the study of LOC in college students

As stated earlier, many studies have focused on the relationship between LOC and academic achievement or behaviors that lead to it. It is noteworthy, though, that many of these studies have used general-life scales to measure the LOC construct such as Rotter's (1966) or Levenson's (1973). This is in contrast with the generally accepted academic position that the LOC construct might indeed be domain specific. In line with this belief, some researchers have developed scales aimed at measuring the construct specifically in academic settings and especially with college-level students. In this section, we offer a brief overview of these scales.

To the best of our knowledge, only three scales can be considered to meet

these two requirements (being academic-specific and college-students intended). These are Lefcort's (1981) Multidimensional-Multiattributional Causality Scale (MMCS), the aforementioned Trice's (1985) Academic Locus of Control Scale for College Students (ALC) and Arocha and Lezama's (2007) Academic Locus of Control Inventory (ILCA the original acronym in Spanish). Other academic-specific scales, such as Crandall's Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovski and Crandall, 1965) and Krampen's (1988) Domain-specific IPC Scales, do not meet the requirement of being originally intended for college students.

Lefcourt's MMCS was originally designed to measure LOC in college students in two domains: achievement and affiliation. It was not originally intended to measure academic LOC, but since it was intended for "the beginning university undergraduate" (Lefcourt, 1981: 250), the achievement domains refers specifically to academic achievement and study-related situations. The scale comprises two sets of 24 Likert-type items (one set for achievement and another for affiliation) which in turn contain 12 items describing success experiences and 12 items describing failure experiences each. Although a strong believer of the predictive value of LOC, Lefcourt was critical of the dual view of the construct within the social learning framework proposed by Rotter (1966) and Bandura (1971). Thus, his scale aligns more to Wiener's attributional motivation theory (1985). As a result, this scale measures not only the internality-externality dimension, but also includes a stability dimension. In addition, internal and external causes are consistent with common causal attributions (effort, ability, situation/context and luck) identified in attributional theory.

Scores range from 0 to 192 if both achievement and affiliation are considered. The Likert-type items range from 0 to 4. In the achievement scale, higher scores in items describing effort and ability indicate a tendency to internality; whereas higher scores items related to situation/context and luck indicate a tendency to externality.

Lefcourt (1981) reports that Cronbach alphas range between .58 and .80 for items in the achievement-externality subscale and between .50 and .77 in the achievement internality subscale. The achievement scores of the MMCS correlate positively and significantly with Rotter's I-E LOC Scale (coefficients ranging between .23 and .62). Lefcourt himself acknowledged that "social desirability can be a contaminating influence in the assessment of locus of control" (1981: 254) when using the MMCS especially in the achievement-externality subscale. The validity of this scale for measuring LOC in college students has been established in several studies (Lefcourt, von Baeyer, Ware and Cox, 1979; Powers and Rossman, 1983; Powers, Douglas, Lopez, and Rossman, 1985). As for the predictability of the results of this scale

and academic achievement, Lefcourt et al. (1979) found that the scale did not predict achievement-related behaviors, while Kanoy, Wester and Latta (1990) found that high achieving female college students scored higher on the internality subscales of the MMCS.

The Academic Locus of Control Scale for College Students (ALC; Trice, 1985) is a 28-item True/False survey format instrument designed to measure LOC in a college/university context. Scores can range from 0 to 28 with high scores indicating a more external orientation. The items were written by graduate students in psychology classes. Education students from a state university were test-retested, five weeks apart. The resulting 28 items scale was given to 82 freshmen from a private, open-admissions liberal arts college enrolled in a general psychology course. Test-retest reliability was .92 over a five-week interval and internal consistency was .70 using the KR-20 coefficient. Results of the study showed the scale to predict study behavior, to correlate with other LOC scales, to correlate with achievement motivation, and to have non-significant social desirability scores.

Many studies have used the ALC and have validated its potential to tackle LOC and to predict academic achievement. Trice et al. (1987) confirmed the concurrent validity of the ALC Scale in three studies of college students. Results showed significant correlations in the predicted directions between academic success variables and the ALC Scale scores. Although significant correlations in the predicted directions between academic success variables and the ALC scores have been found most of the time, results vary. For instance, Carpenter (2010) studied a sample of 132 students in graduating classes from four Midwestern, baccalaureate of nursing programs. The schools were both private and public institutions located within the same state. The study aimed at determining whether LOC was predictive of students' performance on the ATI Comprehensive Predictor Exam and the National Council Licensure Examination-Registered Nurse (NCLEX-RN). Internality was found to be significantly related to the NCLEX-RN. Also, logistic regression showed that a student with an internal LOC was 6.7 times more likely to pass the NCLEX-RN. However, regression analysis showed that other variables, such as anxiety, organization, self-regulation, and prior knowledge, were best at predicting success on the ATI Comprehensive Predictor Exam.

The ALC (Trice, 1985) has been used in different settings and along with academic relevant variables such as absenteeism (Trice, 1987 and Trice and Hackburt, 1989), academic achievement (Carpenter, 2010; Chalak, Nasri, and Tabrizi, 2014), GPA (Ibrahim, 1996), goal achievement (Akin, 2010), persistence (Lee, Choi and Kim, 2013), procrastination (Dervishaliaj and Xhelili, 2014; Janssen and Carton, 1999); study skills (Jones, Slate and Marini, 1995; Onwuegbuzie and Daley, 1998), gra-

duate school intention (Landrum, 2010, Nordstrom and Segrist, 2009), instructional dissent (Buckner and Finn, 2013), Internet addiction and social self-efficacy (Iskender and Akin, 2010) and attachment security (Kurland and Siegel, 2013).

The properties of the ALC have also been tested with students from different cultural and geographical contexts. Among the different geographical settings where ALC has been used, besides the USA, include Albania (Dervishaliaj and Xhelili, 2014), Iran (Chalak, Nasri, and Tabrizi, 2014), Oman (Ibrahim, 1996), and Turkey (Akin, 2010). For example, Akin (2010) examined 627 university students from Sakarya University to study the relationship between ALC and goal achievements while Dervishaliaj and Xhelili (2014) studied the relationship between ALC and procrastination in 45 students attending graduate programs at the Department of Education and the Department of Albanian Literature, at the University of Vlora Ismail Qemali.

Recently, Curtis and Trice (2013) revised the ALC to investigate its factor structure as well as to confirm its current pertinence. 322 psychology students from a competitive-admission, midsized southeastern university volunteered. Four factors were produced from the principal component analysis, named hopelessness, distractibility, poor student attitude, and impaired planning. Seven items from the original scale did not load significantly on any of these four factors; therefore, upon content and technical examination, their elimination was suggested. McDonals' statistic showed high estimates of internal consistency for all factors. The internal consistency reliability of the revised overall scale (α= .68) was similar to that of the 28-item scale (α= .66). Furthermore, the resulting scale was similar to the original with respect to its relations to grade point average (GPA), attendance, and measures of academic entitlement, procrastination, depression, and anxiety.

The items that were not included (numbered 1, 5, 6, 8, 12, 18 and 19 in the original scale) seem to be related to issues that are not relevant nowadays or fall outside the four themes that were considered (planning, hopelessness, distractibility and attitudes). This result suggests that, in contrast to the most common structures of current LOC scales, based on attributions or domains, the resulting scale is ordered in terms of motivational/educational content.

Arocha and Lezama (2007) designed the ILCA as an instrument to measure the LOC of college students in Venezuela. They were motivated by the unavailability of scales to measure LOC in Spanish and, more importantly, scales that measured LOC in academic settings. The ILCA consists of 32 four-point-Likert-type items distributed between two contexts (academic and interpersonal) and two achievement dimensions (success and failures). Items are short affirmative statements (20 words as maximum length) and

the wording was the result of qualitative interviews of 100 college students from different universities in Caracas. Originally, the inventory was conceptually based on Levenson multidimensional perspective of LOC, and so the proposed factorial structure predicted three factors: internal, powerful others and chance. However, pilot tests of the scale and factorial analysis rejected the proposed factorial structure and produced a bidimensional structure, internality and externality.

The final version of the ILCA was field validated with a non-probabilistic sample of 557 Venezuelan college students, aged 17 to 29, enrolled in different universities in Caracas. All items loaded significantly on one of the two factors proposed (internality vs. externality) and these two factors, in turn, explained 36% of the total variance in the sample. The internal reliability of the instrument (Alpha Cronbach) was estimated at 0.78 for the externality dimension and 0.88 for the internality dimension. A second validation study was conducted by the authors. In this, only 126 students from Central University of Venezuela (the largest and most important in the country) participated. Participants in the sample took the ILCA and also took a Spanish adaptation of Levenson I, P and C scale. Pearson product-moment correlations were estimated between both measures to determine convergent validity. The results showed moderate, positive and significant correlations between the internality subscale of the ILCA and the internality subscale of Levenson's, between the externality subscale of the ILCA and both powerful others and chance from Levenson's.

There are moderate, negative and significant correlations between the externality subscale of the ILCA and the internality subscale of Levenson's. In other words, ILCA and Levenson's I, P and C scale measure similar constructs. The fact that correlations were moderate was explained by Arocha and Lezama as an effect of the specificity component of their scale in contrast to Levenson's general-life scope.

When considering Arocha and Lezama's ILCA as a possible instrument for researching academic LOC among Spanish-speaking Latin American college students, the first advantage that comes to mind is the fact that it was originally produced in Spanish and that the wording of the items resulted from interviews from such populations. However, one limitation of this scale is that its validity is not backed by other studies. Furthermore, the authors themselves have acknowledged some items in the scale still need refinement and that further studies are also needed to establish its validity. A final consideration is that the authors do not provide guidelines on how to interpret scores, especially considering its Likert-type format.

To summarise, the Academic Locus of Control Scale for College Students (Trice, 1985) has been used successfully in different settings and populations

since 1985. It has been used in studies that correlate LOC with an array of variables relevant to academic success such as absenteeism, academic achievement, procrastination, study skills, and persistence. It has shown to be a pertinent, valid and consistent instrument to measure academic LOC in higher education. However, studies with Latino students were not found in the literature review; therefore, its translation, adaptation and validation in a Hispanic context is considered to be worth pursuing.

Methodology

Setting

Universidad Simón Bolívar is located in Valle de Sartenejas, Caracas, Venezuela. It is a small, public, high-standard, tuition-free, science and technology-oriented university. Most students are admitted through a procedure that includes their high school grade-point average (GPA) and results from an *ad hoc* comprehensive admission exam.

Participants

A total of 179 freshmen took part in the study. 102 were male and 77 were female with ages ranging between 18 and 21. 70% are pursuing a 5-year degree while the rest are pursuing 3-year degrees. The GPA average of the group is 3.48 in a scale from 1 to 5, 3 being the passing grade.

Procedure

Permission to translate and use the ALC was requested and obtained via email. The translation procedure was based on the guidelines provided by Dornyëi and Taguchi (2010). The procedure was as follows: (1) two different professionals -both Spanish native speakers and highly proficient in English- translated separately the original scale from English into Spanish; (2) both translations were compared and discussed and differences were solved by consensus, thereby producing a refined translation called "version 1" for writing purposes; (3) version 1 was given to three non-target students from the USB and two English teachers and from their observations and comments version 2 emerged; (4) Version 2 was back translated by two different professional (one a native English speaker, the other a professional and certified translator); (5) both back-translated version were compared and discussed by the authors refining a last draft considered the final one.

The instrument (see appendix B) was adapted and presented to participants as a Google Drive Survey, so that it could be taken on line and then a couple of pilot tests were administered and final adjustments were made. After obtaining permission from the Head of the Language Department and consent from the professors who were to serve as proctors, guidelines and preparation were given. After giving their informed consent (see appendix A), students took

the survey during class time at the beginning of the term. One of the authors assisted proctors *in situ* whenever necessary.

Results were downloaded from Google Drive as an Excel document and data were then exported to SPSS 19 and processed.

Measures

Academic Locus of Control: Defined as the perception of whether internal or external factors exert control over different academic behaviors and situations. It was measured by a Spanish adaptation of The Academic Locus of Control Scale for College Students (ALC; Trice, 1985) which consists of 28 True/False items. Scores can range from 0 to 28 with high scores indicating a more external orientation.

Students' bio data: After the 28 items of the scale, students were asked to provide some personal information, specifically, their gender and the type of major they were pursuing either a 5-year degree (usually for engineering and other basic science majors) or a 3-year degree (usually for business management, international trade, electronics and other similar majors).

Grade point average: Defined as an indicator of academic success, it is a measure that is calculated by multiplying the grade the student obtained in each completed subject by its corresponding number of credits. These products are then added and the sum is divided between the total of credits the student has registered thus far. Students were asked to self-report their GPA as a last question at the end of the students' bio data questionnaire.

Analysis

To determine the reliability and validity of the Spanish adaptation of the ALC, three types of analyses were conducted. First, the descriptive analysis of the results included descriptive statistics such as mean, standard deviation, maximum and minimum. Considering that many studies have examined the relationship between sex and LOC (Mayora and Fernández, 2015) a one-way ANOVA was run to see if there were any differences in LOC according to sex. To know the relationship between ALC and GPA, a Pearson product-moment correlation was run. The Alpha-Cronbach coefficient was estimated to determine reliability and a principal component analysis was conducted to determine the validity of the scale.

Results

Descriptive results

Results from the administration of the translated version of the ALC are shown in table 1. The mean score was 7.26 with a standard deviation of 3.5. The maximum score was 17 and the most frequent score was 7 over the 28-point possible score for the ques-

tionnaire. These results suggest that the majority of the students in the sample have a tendency towards internal academic locus of control. Regarding sex, the mean for the 102 male students was 7.65, with a standard deviation of 3.76, while the mean for the 77 female students was 6.74, with a standard deviation of 3.3. A one-way ANOVA shows that this slight difference is not statistically significant.

Students self-reported GPA shows a mean of 3.48 with a standard deviation of 0.55. The maximum score reported was 4.8 and the most frequent reported score was 3,3. Based on these results, it can be said that students show an average performance with a mean that barely surpasses the minimum passing grade of 3 points in a scale of 1 to 5 in the scoring system of Universidad Simón Bolívar. Results are summarized in table 1.

Table 1. Descriptive statistics for students' self-reported GPA, scores in the Spanish version of the ALC scale, and scores in the ALC by sex

	X	SD	Lowest	Highest
Reported GPA[a]	3.48	0.55	2.10	4.8
ALC-Sp score[a]	7.26	3.59	1	17
ALC-Sp fem[b]	6.74	3.3	1	15
ALC-Sp male[c]	7.65	3.76	1	17

a: N= 179; b: N=77; c: N=102
Source: The authors (2017)

Instrument reliability

To determine the reliability of the translated version, Alpha-Cronbach coefficient was estimated. Internal consistency for the complete scale was acceptable but low (α=.66). Examinations of reliability coefficients per item revealed that deletion of any item would increase or reduce the overall internal consistency of the complete scale importantly. The possible coefficients in the event of excluding any of the 28 items ranged between 0.63 and 0.68.

Instrument validity

To determine the validity of the instrument, a Principal Components Analysis (PCA) was conducted on the 28 translated items with oblique rotation (Promax) following Curtis and Trice (2013) validation and revision procedure. First, it was needed to determine if the data met the assumptions of the PCA, namely 1) multiple variables on a continuous level; 2) linear relationship among all variables; 3)

sampling adequacy; and 4) suitability for data reduction. Assumption 1 was granted by the fact that the answers to the items in Trice's ALC, originally true or false, can be scored as 1 point or 0 in terms of correct or incorrect answers, and therefore can be considered as continuous variables and not ordinal. The rest of the assumptions were tested through statistical procedures available in SPSS. In this case, the correlation matrix determinant, the results of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's test of sphericity were considered.

All results showed that the data and sample were barely acceptable for the PCA. Although our variables were continuous, some authors recommend larger Likert-type scales instead of dichotomic ones such as the true-false scale used in the ALC. The determinant for the correlation matrix was .013, and the KMO was .64, both indicating slightly low linear relationship among all variables, since ideal values for the determinant are closer to zero and equal or higher than .81 for the KMO. The Bartlett's test was significant to .05 (x^2= 733, p< .05). Again, this result also suggested that the sample and data were far from ideal values for a PCA and reached barely acceptable and considerably low values. In spite of that finding, it was decided to proceed with the PCA.

For the PCA, the expected number of factors was pre-established based on Curtis and Trice (2013) results of a four factor structure. Eleven components had eigenvalues over Kaiser's criterion of 1. Among these, four components meet the criterion of having loadings superior to .40. Eight items loaded in Factor 1 (9, 19, 20, 21, 22, 23, 24 and 28); two items in Factor 2 (12 and 27); three in Factor 3 (5, 6 and 14); and 2 in Factor 4 (15 and 25). These four factors combined explained 31.2% of the variance. Thus only 15 items were retained in this model and 13 items were excluded. Table 2 shows the loadings of the items in each factor, their communalities, the variance explained by each factor and the list of excluded items.

Relationship between ALC and self-reported GPA

The Pearson product-moment correlation coefficient for the translated version of Trice's ALC and self-reported GPA of the 179 students in the sample was low, negative and non-significant (r= -0.141, p=0.61). As predicted by the theory, lower scores in the ALC, associated with internal LOC, co-occur with higher scores in self-reported GPA. However, since this relationship is non-significant, it could be a result of chance and no relationship can be considered in the given context and with the current sample.

Table 2. Principal component analysis of the data

Items	Factors				Communality	% of variance explained
	1	2	3	4		
22: A veces me deprimo, entonces no hay forma de que logre lo que sé debería estar haciendo.	0.604				0.328	
28: Planeo bien y sigo mis planes.	0.568				0.500	
9: A veces siento que no hay nada que pueda hacer para mejorar mi situación académica.	0.522				0.333	
10: Nunca me desespero, siempre hay algo que puedo hacer para mejorar mi situación.	0.517				0.404	12.32
20: Me distraigo fácilmente.	0.495				0.425	
21: Es fácil que me convenzan de no estudiar.	0.449				0.388	
23: Probablemente me vaya mal en algún momento del futuro cercano.	0.444				0.411	
24: Cambio de opinión constantemente con respecto a mis metas académicas.	0.428				0.301	
12: Hay muchas cosas más importantes para mí que obtener buenas notas.		0.721			0.538	19.43
27: Me gustaría graduarme de la universidad, pero hay cosas más importantes en mi vida.		0.596			0.418	
5: Al menos una vez, he tomado un curso porque era fácil sacar buena nota.			0.628		0.432	25.51
14: En algunas asignaturas no es necesario ir a clase.			0.487		0.291	
6: A veces, los profesores se hacen una idea inicial de mí, y luego, no importa lo que haga, no puedo cambiar esa impresión.			0.459		0.261	
25: Siento que algún día voy a hacer una verdadera contribución al mundo, si me esfuerzo para lograrlo.				0.533	0.326	31.23
15: Me considero altamente motivado para lograr éxito en la vida.				0.459	0.621	
Items excluded:	1, 2, 3, 4, 7, 8, 10, 11, 13, 16, 17, 18, 26					

Source: The authors (2017)

Discussion

In the current study, a strong orientation towards internal LOC was found. This contrasts with the results from previous research in which a tendency towards externality has been found in Latin American societies (De Grande, 2013; Laborín, Vera, Durazo and Parra, 2008; Prawat, Byers, and Durán, 1981) especially associated to socioeconomic status and educational background. In other words, given the percentage of people in Latin America who live in poverty and who have not had access to secondary or tertiary education, externality tends to be frequent in these countries. It can be speculated that in this data that was not the case since participants were college students who had already completed secondary education and were pursuing a tertiary education degree.

This study also found no statistically significant difference in LOC between males and females. Results concerning the relationship between LOC and sex have often been contradictory with some studies reporting statistically significant difference between males and females (Ghasemzadeh and Saadat, 2011; Haider and Naem, 2011; Ibrahim, 1996; Laborín et al., 2008; Prawat et al., 1981; Trice, 1985) while others reporting the contrary (Bodill and Roberts, 2013; Cassidy, 2012). Even in those cases where a difference has been found, the reported tendencies towards either externality or internality have not been consistent. What can be concluded from this finding is that sex and LOC are unrelated in the context of the present study.

As for reliability, this study found barely acceptable levels of internal consistency as measured by the Alpha Cronbach index. Trice's (1985) original scale reported KR-20 internal consistency index of 0.70, Ibrahim (1996) reported the Omani version reached an Alpha Cronbach reliability index of 0.58, and Curtis and Trice's (2013) revision reached an Alpha Cronbach of 0.68 and a Mcdonald's index of 0.86. The Alpha Cronbach found in this study of 0.66 can be seen as consistent with previous studies, higher than the Omani's version and close to the reliability of the English version. In this regard, Curtis and Trice (2013) have highlighted that the Alpha Cronbach might not be suitable to measure the internal consistency of this scale.

To discuss the validity of the instrument, it is necessary to compare the resulting factorial structure of the present study with the factorial structure of the original English version of the scale. This comparison is shown in table 3, with items that are consistently distributed in both scales highlighted in bold face.

Table 3. Comparison of the factorial structures of the English and Spanish versions of the ALC

Factors/items	Curtis and Trice (2013)	This study
1	**9,**10,**22,23,**25,7	**9,**19,20,21,**22,23,**24,28
2	26,21,11,20	12,27
3	17,15,13,4,**14**	5,6,**14**
4	3,24,16,2,27,28	15,25
No factor	**8,**6,12,**1,**5,19	**1,**2,3,4,7,**8,**10,11,13,16,17, 18, 26

Source: The authors (2017)

From table 3, it is clear that the factorial structures of both versions differ greatly, with only three items consistently loading on the first factor for both scales and one item on the third.

The first factor in Curtis and Trice's revised version of the ALC was labeled as *hopelessness,* and it includes items such as "I sometimes feel that there is nothing I can do to improve my situation" (item 9) and "I get depressed sometimes and then there is no way I can accomplish what I know I should be doing" (item 22). Both items 9 and 22 loaded significantly on the first factor along with item 23 suggesting that the resulting first factor in this study can be associated with hopelessness. Yet, other items that in this study load on the same factor such as items 21 ("I can be easily talked out of studying") and 24 ("I keep changing my mind about my career goals") seem unrelated to feelings of hopelessness. In the face of these discrepancies, the following tentative explanation can be advanced. It is well known that Venezuela has been experiencing a profound social and political crisis for the past three years (Flannery, 2015). This crisis has had a particularly serious impact in public autonomous universities. So much so, that a number of conflicts between the State and public universities as well as protests led by students have taken place (The Economist, 2014; von Bergen, 2015). It might be the case that, as a result of this state of affairs, the feeling of hopelessness has increased among college students. Thus, they can be easily distracted from studying because they feel hopeless about their future. Likewise, this increased feeling of hopelessness can also be a reason to change their minds about career goals. Venezuela has experienced in recent years one of the largest exodus in its history especially among college graduates and undergraduates (AFP, 2015; Tovar, 2015). The decision to leave one's own country because of uncertainty and hopelessness regarding one's own future might translate into constant decision-changing regarding one's general and academic goals. It must be highlighted, though, that this explanation is only speculative and needs to be confirmed in future studies.

Factor 2 in Curtis and Trice was labeled distractibility and it comprises items that refer to how easily students get distracted from studies and academic duties such as item 26 ("There has been at least one instance in school where social activity impaired my academic performance"). There is no correspondence between Trice and Curtis' second factor and the second factor resulting in this study which comprised items 12 and 27. Both items seem to be related to situations in which students consider there are things that are more important than grades (item 12) or graduating (item 27). In Curtis and Trice's study, item 3 loaded on the third factor (poor student attitude) and item 12 did not load in any factor. Once again, a possible explanation for this might be related to the current situation in the country. As political and economic instability rises, students might be reconsidering their priorities and as emigration sets as a feasible future path, current grades and academic duties might be pondered and reevaluated as *priorities*.

Curtis and Trice's third factor was labeled as poor student attitude and five items loaded on it. In this study, three items loaded on this factor and only one is consistent with Curtis and Trice's, Item 14, which refers to students perceiving that attendance is not always important. The other two items, item 5 ("At least once, I have taken a course because it was easy to get a good grade") and item 6 ("Professors sometimes make an early impression of you and then no matter what you do, you cannot change that impression") also seem indicative of an attitude of little concern or *lack of commitment* towards academic duties such as effort and attendance. Due to the evident disparity in the items loading this third factor, it is not possible to use the same label.

Regarding the fourth factor, it can be seen that the original factor and the one resulting here are too different to compare. The fourth factor resulting in the current study includes only two items and both seem to be related to *intrinsic motivation* (item 15: "I consider myself highly motivated to achieve success in life" and item 25: "I feel I will someday make a real contribution to the world if I work hard at it"). This contrasts significantly with the fourth factor in the original English version of the scale whose authors labeled as *impaired planning*.

Finally, in the original factorial analysis of the English version, six items were excluded while in the current study there were 13. In both studies, items 1 ("College grades most often reflect the effort you put into classes") and 8 ("Some students, such as student leaders and athletes, get free rides in college classes") were excluded. The exclusion of item 8 did not come as a surprise since in the Venezuelan context policies regarding participation in sports differ greatly from those in the USA. When explaining the exclusion of these items in their study, Curtis and Trice (2013:826) stated that "The items that were eliminated seem

to reflect issues that were much more in the forefront 30 years ago when the scale was developed", suggesting that in the present such issues might not be that relevant. In this particular study, cultural and contextual differences might explain this result. The items were written by North American students in the 80's and their attitudes and perceptions regarding academic performance might be very different from those of Venezuelan students in the 2010's. The same reason might underlie the difference in the composition of the factors.

Conclusion

The current study sought to translate and validate Trice's (1985) Academic Locus of Control Scale for College Students with a sample of 179 college students from a public university in Venezuela. Results indicate that reliability of the translated scale is barely acceptable. The principal component analysis revealed a four-factor structure that considerably differs from the factorial structure of the original English version. The factorial structure of most LOC scales tends to be based on dimensions (internal vs. external), attributions or domains (Curtis and Trice, 2013) while the structure of the ALC was found to be based on motivational/educational content. The structure of the Spanish version is also based on motivational/educational content. Yet, only one factor seems to be consistent with the structure of the original (namely hopelessness) while the other three factors reflect very different orientations (distractibility vs. priorities; poor student attitude vs. lack of commitment; and impaired planning vs. intrinsic motivation). Furthermore, in this study the number of items loading on factors 2, 3 and 4 are considerably scarce and the numbers of items excluded is considerably large.

There are three possible reasons that might explain these disparities: a) the methodological limitations such as sampling inadequacy or lack of suitability for data reduction; b) poor quality of the translation; and c) remarkable cultural, social and contextual differences between participants. We strongly believe the latter to be the most important, considering the current state of affairs in Venezuela's political and social situation.

Given the present result, we consider that Trice's ALC might not be a suitable instrument to study academic LOC among Venezuelan students and probably among other Latin American college populations. However, further studies in which the limitations herein reported are overcome (a larger and more diverse sample, a new revision of the translation, and other validation procedures such as correlation to other measures of LOC) might yield different result and will be worth future efforts.

Bibliographic references

AFP (2015, November). Crisis venezolana provoca éxodo de docentes en aulas universitarias [Venezuelan crisis leads to professors exodus from college classrooms]. **El Espectador.** Retrieved from http://www.elespectador.com/noticias/elmundo/crisis-venezolana-provoca-exodo-de-docentes-aulas-unive-articulo-597272.

Agnew, Nelvia; Slate, John; Jones, Craig and Agnew, David. (1993). Academic behaviors as a function of academic achievement, locus of control, and motivational orientation. **NACTA Journal,** Vol. 37, N° 2, pp. 24-27.

Akın, Ahmet. (2010). Achievement goals and academic locus of control: structural equation modeling. **Egitim Arastirmalari-Eurasian Journal of Educational Research.** Vol. 38, pp. 1-18.

Arocha, Mario and Lezama, Luisa. (2007). Construcción, validación y confiabilidad de un inventario de locus de control académico (ILC-A) [Construction, validation and reliability of an academic locus of control inventory]. **Revista Iberoamericana de Diagnóstico y Evaluación Psicológica.** Vol. 24, N° 2, pp. 151 – 175.

Arslan, Coskun; Dilmaç, Bulent and Hamarta, Erdal. (2009). Coping with stress and trait anxiety in terms of locus of control: A study with Turkish university students. **Social behavior and personality: an international journal.** Vol. 37, N° 6, pp. 791-800.

Bandura, Albert. (1971). **Social learning theory.** General learning press, Nueva York.

Bodill, Kate and Roberts, Lynne. (2013). Implicit theories of intelligence and Academic Locus of Control as predictors of studying behavior. **Learning and Individual Differences.** Vol. 27, pp. 163-166.

Bolívar, Juan y Rojas, Freddy. (2008). Los estilos de aprendizaje y el locus de control en estudiantes que inician estudios superiores y su vinculación con el rendimiento académico [The link between learning styles and locus of control among college freshmen and academic achievement]. **Investigación y Postgrado.** Vol. 23, N° 3, pp. 199-215.

Buckner, Marjorie and Finn, Amber. (2013). Academic Locus of Control as an individual factor influencing student dissent. **Communication Research Reports.** Vol. 30, N° 4, pp. 333-341.

Carpenter, Jane. (2010). **Locus of control and Motivation Strategies for Learning Questionnaire: Predictors of Student Success on the ATI Comprehensive**

Predictor Exam and NCLEX-RN Examination, (Unpublished PhD dissertation). University of Kansas. http://kuscholarworks.ku.edu/handle/1808/7819.

Cassidy, Simon. (2012). Exploring individual differences as determining factors in student academicachievement in higher education. **Studies in Higher Education.** Vol. 37, N° 7, pp. 793-810.

Chalak, Azizeh; Nasri, Niloufar and Tabrizi, Hossein. (2014). The Relationship between the types of locus of control and the academic achievement of Iranian online foreign language learners. **Cypriot Journal of Educational Sciences.** Vol. 9, N° 1, pp. 50-56.

Crandall, Virginia; Katkovsky, Walter and Crandall, Vaughan. (1965). Children's belief in their own control of reinforcements in intellectual-academic achievement situations. **Child Development,** Vol. 36, N° 1, pp. 91-99.

Curtis, Nicholas and Trice, Ashton. (2013). A revision of the Academic Locus of Control Scale for College Students. **Perceptual and Motor Skills: Physical Development and Measurement.** Vol. 116, N° 3, pp. 817-829.

Dervishaliaj, Erjona and Xhelili, Gentiana. (2014). Academic procrastination and locus of control in graduate students. Paper presented at **The 2nd International Conference on Research and Education Challenges towards the Future (ICRAE 2014).** Shkoder.http://konferenca.unishk.edu.al/icrae2013/icraecd2013/doc/286.pdf

De Grande, Pablo. (2013). Redes personales y locus de control en centros urbanos de la Argentina [Personal networks and locus of control in large urban centers of Argentina]. **Revista de Psicología.** Vol. 31, N° 2, pp. 315-348.

Dörnyei, Zoltán and Taguchi, Tatsuya. (2010). **Questionnaires in second language research. construction administration and processing.** 2nd Edition, Routledge, New York.

Findley, Maureen and Cooper, Harris. (1983). Locus of control and academic achievement: a literaturereview. **Journal of Personality and Social Psychology.** Vol. 44, N° 2, pp. 419-427.

Flannery, Nathaniel. (2015, April). **How bad is Venezuela's economic crisis?** [Blog post] Forbes/Leadership, Available in: http://www.forbes.com/sites/nathanielparishflannery/2015/04/28/how-close-is-venezuela-to-defaulting/. Recovered the April 12, 2015.

Ghasemzadeh, Azizreza and Saadat, Maryam. (2011). Locus of control

in Iranian university students and its relationship with academic achievement. **Procedia-Social and Behavioral Sciences.** Vol. 30, pp. 2491-2496.

Haider, Imran and Naeem, Mohsin. (2013). Locus of control in graduation students. **International Journal of Psychological Research.** Vol. 6, N° 1, pp. 15-20.

Halpert, Rita and Hill, Russ. (2011). **28 Measures of Locus of Control.** Will to power press, Nueva Jersey.

Hasan, Syeda and Khalid, Ruhi. (2014). Academic Locus of Control of high and low achieving students. **Journal of Research and Reflections in Education.** Vol. 8, N° 1, pp. 22-33.

Hernández, María and Esser, Joyce. (2000). Relación entre el rendimiento académico con el locus de control en los estudiantes del segundo año de la carrera de odontología en la Universidad de Carabobo en las asignaturas microbiología y biomateriales dentales. [The relationship between academic achievement and locus of control among sophomores majoring in odontology within the courses of microbiology and dentistry bio-materials]. **Revista Odous científica.** Vol. 1, N° 1, pp. 55-62.

Ibrahim, Alí. (1996). A cross-cultural validation of Trice's academic Locus of Control scale for college students in an Omani sample. **Perceptual and Motor Skills.** Vol. 83, pp. 823-829.

Işik, Erkan. (2013). Perceived social support and locus of control as the predictors of vocational out come expectations. **Educational Sciences: Theory and Practice.** Vol. 13, N° 3, pp. 1426-1430.

Iskender, Murat and Akin, Ahmet. (2010). Social self-efficacy, academic Locus of Control, and internet addiction. **Computers and Education.** Vol. 54, N° 4, pp. 1101-1106.

Janssen, Tracy and Carton, John. (1999). The effects of Locus of Control and task difficulty on procrastination. **Journal of Genetic Psychology.** Vol. 160, N° 4, pp. 436-442.

Jones, Craig; Slate, John and Marini, Irmo. (1995). Locus of Control, social interdependence academic preparation, age, study time, and the study skills of college students. **Research in the Schools.** Vol. 2, N° 1, pp. 55-62.

Judge, Timothy and Bono, Joyce. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. **Journal of Applied Psychology.** Vol. 86, N°1, pp. 80-92.

Kanoy, Korrell; Wester, Janet and Latta, Marta. (1990). Understanding differences between high- and low-achieving women: Implications for effective placement and teaching. **Journal of College Student Development.** Vol. 31, No. 1, pp. 133-140.

Krampen, Günter. (1988). Competence and control orientations as predictors of test anxiety in students: Longitudinal results. **Anxiety Research.** Vol. 1, N° 3, pp. 185-197.

Krenn, Bjoern; Wuerth, Sabine and Hergovich, Andreas. (2013). Individual differences concerning the impactof feedback specifying the role of core self-evaluations. **Studia psychologica.** Vol.55, N° 2, pp. 95-110.

Kurland, Robert and Siegel, Harold. (2013). Attachment and Student Success During the Transition to College. **NACADA Journal.** Vol. 33, N° 2, pp. 16-28.

Laborín, Jesús; Vera, José; Durazo, Francisco and Parra, Erik. (2008). Composición del locus de control en dos ciudades latinoamericanas [Composition of locus of control in two Latin American cities]. **Psicología desde el Caribe.** Vol. 22, pp. 63-83.

Landrum, Rerick. (2010). Intent to apply to graduate school: perception of senior year psychology majors. **North American Journal of Psychology.** Vol. 12, pp. 243-254.

Lee, Youngju; Choi, Jaeho and Kim, Taehyun. (2013). Discriminating factors between completers of and dropouts from online learning courses. **British Journal of Educational Technology.** Vol. 44, N° 2, pp. 328–337.

Lefcourt, Hebert. (1981). The construction and development of the multidimensional-multiattributional causality scales. In Lefcourt, Hebert. (Ed.) **Research with the locus of control construct.** Vol. 1, Academic Press, New York.

Lefcourt, Hebert; von Baeyer, Carl; Ware, Eduard and Cox, Dianne. (1979). The multidimensional-multiattributional causality scale: The development of a goal specific Locus of Control scale. **Canadian Journal of Behavioral Science,** Vol. 11, N°2, pp. 286-304.

Levenson, Hanna. (1973). Reliability and validity of the I,P, and C scales - a multidimensional view of locus of control. **American Psychological Association Convention: Symposium on "Beliefs in Locus of Control: Unidimensional or Multidimensional?",** Montreal, Canada. http://files.eric.ed.gov/fulltext/ED087791.pdf

Mayora, Carlos y Fernández, Nelly. (2015). Locus de control

y rendimiento académico en educación universitaria: Una revisión de la bibliografía. **Educare,** Vol. 19, N° 3, pp. 1 - 27.

Meyer, John; Stanley, David; Herscovich, Lynne and Topolnytsky, Laryssa. (2002). Affective, continuance, and normative commitment to the organization: a meta-analysis of antecedents, correlates, and consequences. **Journal of Vocational Behavior.** Vol. 61, N° 1, pp. 20-52.

Nordstrom, Cynthia and Segris, Dan. (2009). Predicting the likelihood of going to graduate school: The importance of Locus of Control. **College Student Journal.** Vol. 43, N° 1, pp. 200-206.

Norwicki, Stephen and Strickland, Bonnie. (1971). A Locus of Control Scale for Children. **79th Annual Convention of the American Psychological Association,** Washington, D.C., September 3-7. Available in: http://files.eric.ed.gov/fulltext/ED058933.pdf. Recovered the February 20, 2015.

Nunes, Isabel. (2011). Escala de Atribuições em relação à Carreira (EAC): Um estudo exploratório. [Career Attributional Scale (EAC): An exploratory study]. **Revista Brasileira de Orientação Profissional.** Vol. 12, N° 1, pp. 5-13.

Nunn, Gerald and Nunn, Susan. (1993). Locus of control and school performance: Some implicationsfor teachers. **Education.** Vol. 113, N° 4, pp. 636-640.

Onwuegbuzie, Anthony and Daley, Christine. (1998). Study skills of undergraduates as a function of academic Locus of Control, self-perception, and social interdependence. **Psychological Reports.** Vol. 83, pp. 595-598.

Powers, Stephen; Douglas, Peggy; Lopez, Richard and Rossman, Mark. (1985). Convergent validity of the multidimensional-multiattributional causality scale with the mathematics attribution scale. **Educational and Psychological Measurement.** Vol. 45, N° 3, pp. 689-692.

Powers, Stephen and Rossman Mark. (1983). The reliability and construct validity of the multidimensional-multiattributional causality scale. **Educational and Psychological Measurement.** Vol. 43, N° 4, pp. 1227-1231.

Prawat, Richard; Byers, Joe and Durán, Wilfred. (1981). Attitude development in American and Venezuelan School children. **The Journal of Social Psychology.** Vol. 115, N°2, pp. 149-158.

Rotter, Julian. (1966). Generalized expectancies for internal versus external control of reinforcement.

Psychological Monographs: General and Applied. Vol. 80, N° 1, pp. 1–28.

Russell, Dan. (1982). The causal dimension scale: A measure of how individuals perceive causes. **Journal of Personality and Social Psychology.** Vol. 42, N° 6, pp. 1137-1145.

Serrano, Dulce; Bojórquez, Cecilia and Vera, José. (2009). Locus de control y rendimiento académico en la modalidad virtual [Locus of control and academic achievement in the virtual medium]. In Vales, J. (Ed.). **Nuevas Tecnologías para el aprendizaje.** Pearson, México.

Shepherd, Stephanie; Owen Dean; Fitch Trey and Marshall Jennifer. (2006) Locus of control and academic achievement in high school students. **Psychological reports.** Vol. 98, N° 2, pp. 318-322.

Sisney, Sherleen; Strickler, Bridget; Tyler, Mary; Duke, Marshall and Nowicki, Stephen. (2000). **Reducing the dropout rates of at-risk high school students: The effective learning program.** Emory University, Atlanta.

Stipek, Deborah and Weisz, John. (1981). Perceived personal control and academic achievement. **Review of Educational Research.** Vol. 51, N° 1, pp. 101-137.

The crisis in Venezuela: Another day, more bodies. (2014, March). **The Economist.** Retrieved from http://www.economist.com/blogs/americasview/2014/03/crisis-venezuela. Recovered the February 20, 2015.

Tovar, Ernesto. (2015, July). La emigración crece como plan de vida de los venezolanos [Migration grows as lifeplan for Venezuelans]. **El Nuevo Herald.** Available in http://www.elnuevoherald.com/noticias/mundo/america-latina/venezuela-es/article2785410 7.html. Recovered the February 20, 2015.

Trice, Ashton. (1985). An academic Locus of Control scale for college students. **Perceptual and Motor Skills,** Vol. 61, pp. 1043-1046.

Trice, Ashton. (1987). Academic Locus of Control and required and optional class attendance. **Perceptual and Motor Skills,** Vol. 64, N° 3, pp. 1158-1168.

Trice, Ashton and Hackburt, Lucianne. (1989). Academic Locus of Control, type a behavior, and college absenteeism. **Psychological Reports.** Vol. 65, N° 1, pp. 337-338.

Trice, Ashton; Ogden, Epp; Stevens, Wayne and Booth, Jeann. (1987). Concurrent validity of the Academic Locus of Control Scale. **Educational and Psychological Measurement.** Vol. 47, N° 2, pp. 483-486.

Von Bergen, Franz. (2015, October). **18 Venezuelan universities on brink**

of shutdown as economic crisis enters the classroom. [Mensaje en un blog]. Fox News Latino. Available in http://latino.foxnews.com/latino/news/2015/10/27/18-venezuelan-universities-on-brink-shutdown-as-crisis-enters-classroom/. Recovered the November 20, 2015.

Wallston, Barbara and Wallston, Kenneth. (1978). Locus of control and health: A review of the literature. **Health Education Monographs.** Vol. 6, N° 2, pp. 107-117.

Wallston, Kenneth; Wallston, Barbara and DeVellis, Roberth. (1978). Development of the Multidimensional Health Locus of Control (MHLC) Scales. **Health Education Monographs.** Vol. 6, N° 2, pp. 160-170.

Weiner, Bernard. (1985). An attributional theory of achievement motivation and emotion. **Psychological Review.** Vol. 92, N° 4, pp. 548-573.

Appendix A

Inform consent letter presented to students before completing the Spanish version of the ALC (original in Spanish available at http://goo.gl/forms/D8mFX7EY1D)

Dear / a student,

This research aims to validate an instrument to identify the academic locus of control in college students. "Locus of control" is a term in psychology that refers to control perceptions people hold regarding events that happen to them. The instrument was originally developed in English for American students and our purpose is to adapt it to the Spanish-speaking Venezuelan context. The results of the survey will be used only for information and only for research purposes and not for commercial purposes, or evaluation of this course; therefore, there are no right or wrong answers. Your answers will be treated confidentially. You will only be asked to provide your student ID card number at the end of the questionnaire and other demographics for organizing and keeping track of the data obtained.

If you are interested in your personal results and wish to receive more information about this research, please indicate so in the questionnaire and add your email.

By clicking YES, you accept the following terms:

I have been notified of the aims and purposes of this study.

I agree to participate voluntarily.

I have been ensured that my answers to the questionnaire and personal data will be treated confidentially.

I certify that my answers are completely honest.

I authorize the release of the results in articles and academic papers, provided that my name and other personal details are not disclosed.

Thank you very much for your participation and time.

I have read and accept the terms of the letter of consent. *

Yes No

Appendix B

Spanish version of Trice's ALC

1. La mayoría de las veces, mis calificaciones reflejan el esfuerzo puesto en clases.
2. Vine a la universidad porque era lo que se esperaba de mí.
3. En gran medida, yo he sido quien ha fijado mis metas académicas.
4. Algunas personas tienen un don para escribir, mientras que otros nunca escribirán bien, sin importar cuánto se esfuercen.
5. Al menos una vez, he tomado un curso porque era fácil sacar buena nota.
6. A veces, los profesores se hacen una idea inicial de mí y luego, no importa lo que haga, no puedo cambiar esa impresión.
7. Hay asignaturas en las que nunca podría salir bien.
8. A algunos estudiantes, como los representantes estudiantiles y los atletas, les regalan notas en la universidad.
9. A veces siento que no hay nada que pueda hacer para mejorar mi situación académica.
10. Nunca me desespero, siempre hay algo que puedo hacer para mejorar mi situación.
11. Yo nunca permitiría que las actividades sociales afectaran mis estudios.
12. Hay muchas cosas más importantes para mí que obtener buenas notas.
13. Estudiar todos los días es importante.
14. En algunas asignaturas no es necesario ir a clase.
15. Me considero altamente motivado para lograr éxito en la vida.
16. Escribo muy bien.
17. Ser puntual con mi trabajo siempre es importante para mí.
18. Lo que aprendo está determinado más por las exigencias de la universidad y las asignaturas que por lo que quiero aprender.
19. Me demoro mucho para tomar decisiones que otros no toman en serio.
20. Me distraigo fácilmente.
21. Es fácil que me convenzan de no estudiar.
22. A veces me deprimo, entonces no hay forma de que logre lo que sé debería estar haciendo.
23. Probablemente me vaya mal en algún momento del futuro cercano.
24. Cambio de opinión constantemente con respecto a mis metas académicas.
25. Siento que algún día voy a hacer una verdadera contribución al mundo, si me esfuerzo para lograrlo.

26. Ha habido por lo menos una ocasión en la que mis actividades sociales limitaron mi desempeño académico.
27. Me gustaría graduarme de la universidad, pero hay cosas más importantes en mi vida.
28. Planeo bien y sigo mis planes.

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